



SATURDAY, OCTOBER 23, 1875.

Wright's Improved Locomotive Truck.

We present herewith engravings of an improved locomotive truck which, although of very recent origin, has already been applied to a number of locomotives built at the Baldwin Locomotive Works. The left-hand half of fig. 1 represents a side elevation, and the right half a longitudinal section; the left half of fig. 2 is an end elevation, and the right half a transverse section through the center of the truck, and fig. 3 is a plan.

The improvement consists in the arrangement of the center-plate so as to secure an easy and safe lateral motion of the engine on its bearing on the truck. This is accomplished by making a cast-iron saddle, which is bolted to the truck frame, and has a wide groove or trough crosswise of the truck, as shown at *A* in figs. 1, 2 and 3. The form of the bottom of this groove is concave, or conforms to the arc of a circle as shown at *a a*, in fig. 2. The bolster *B* is made convex, so as to conform to the shape of the groove in the saddle. The upper portion of the bolster is made of the requisite form to receive the center-plate, *C*, figs. 1 and 2, on the engine, and the latter rests on the

the unwashed or unregenerate many. Cloisters and temples were the repositories of religion, and probably that was the safest manner of keeping the kind of religion then in vogue. The advent of Christianity dethroned one class of exclusivists, to be succeeded by another of even sterner mold, under the guise of chosen defenders of the "faith once delivered to the saints."

It is at last beginning to be appreciated that there is no monopoly in this matter at all. To this idea of the universality of this provision for mankind is due the possibility, even, of a voluntary organization composed of representatives of diverse and conflicting interests.

For long centuries after the dawn of the era whose consummation is to be peace and good will on earth, this thought was working deep down below the ken of superficial observers. This generation is the witness of a grand epoch in the world's history. Like the year of bloom of the century plant, this age is manifesting the results of the working of the occult forces at the foundation of its life.

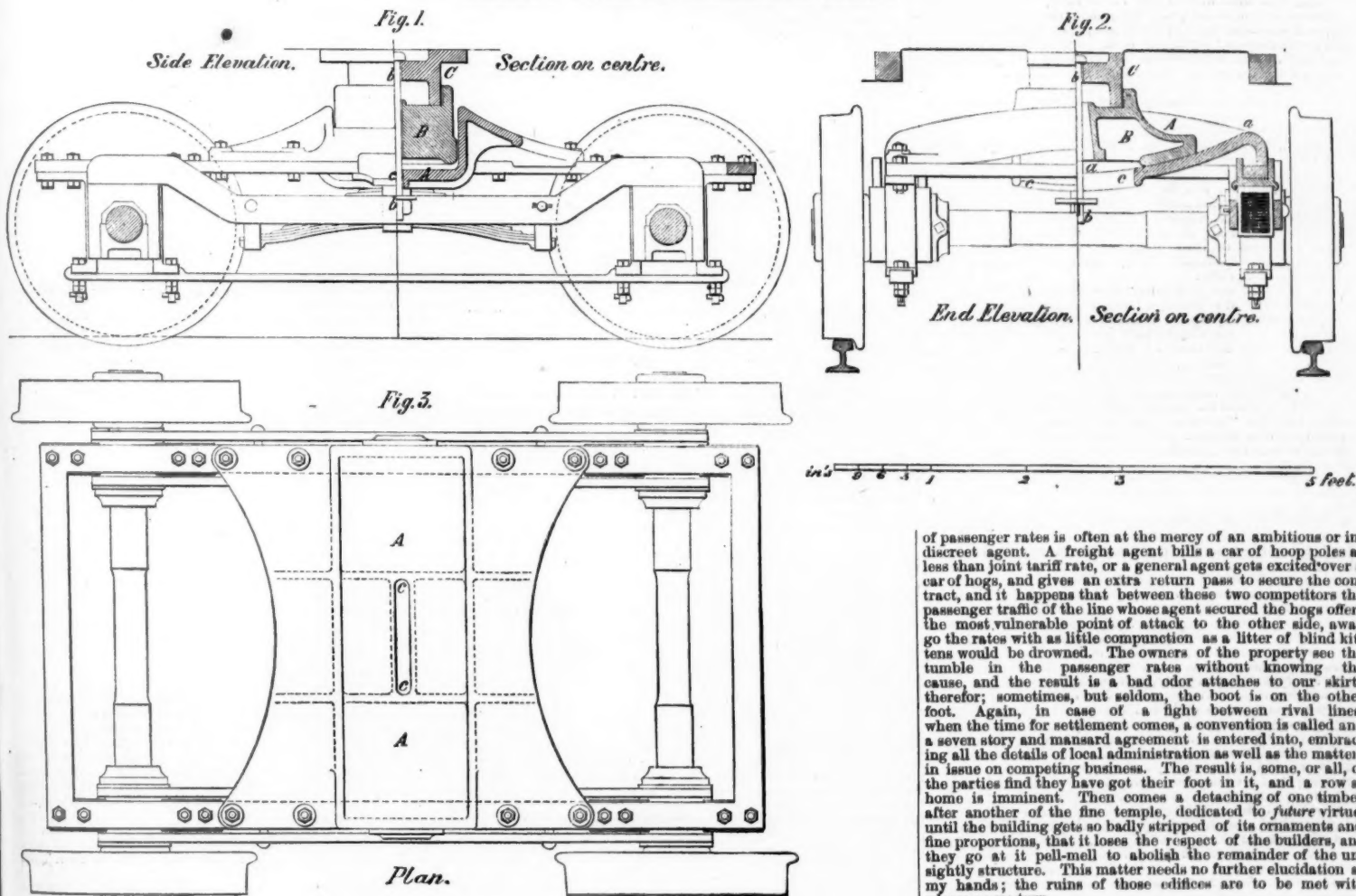
Providential events are the orderly progress of a grand underlying law; there is no game of chance in the working of the "Great First Cause"—all is order there. This Association is one of the necessities of Christian civilization. *Quæ cum ita sint*, and since our objects are the furtherance of the principles of peace, which is the corner stone of prosperity, it is fitting that each and all should be reverently thankful to the Author of all Benevolence for the sunshine of His providence upon our lives and fortunes, and seek His aid in all our laudable undertakings, and ask His protection from engaging in any other. Railway men are not conspicuous, generally, at sanctimonious parades, nor great braggarts over their stock of grace, if they have any. They generally follow the injunction of the Master in one respect at least—praying in secret, if at all; and therein their heads are level, because the classes which made a great show in their devotional exercises met

—upon the importance of good faith in observing the rates we make and the regulations we adopt—and the necessity for a higher standard of ethics in our handling the trusts in our charge; to all which every right-minded member of the Association said yea and amen. Good faith, like a good name in man or woman, is the immediate jewel of the soul of an association for the purpose of promoting the common defence and general welfare of any great interest. Want of space and innate modesty prevented an exhaustive statement of the case by our worthy Secretary, and it seems the most profitable line of thought for the present paper is a little more of the same sort, as the auctioneers say.

The paper referred to states the nature of the disease, and one great cause thereof, but does not give a full diagnosis of the case. Let us continue that. Bad faith is innate, while want of confidence may be the result of overpowering circumstances. In this case there are many such. To begin with, in many cases the head of a department *stat nominis umbra*, and while we think we are dealing with him we are only dealing with a power behind his tiny throne, which overshadows him like a colossus; this, *per se*, generates want of confidence, because we can only see the representative; we may know him, but cannot always know those who control the springs by which he moves. Next, we have the hydra-headed system, composed of a multitude of general agents, who must all do something to vindicate their right to the title, and so responsibility and singleness of purpose are thrown to the winds.

Again, this department is made the *factotum* of the oblique movements of all the others—if any such are practiced. A pass is the magic key entrusted to so many hands that it gets sadly worn. There would be some compensation for this use of our tools if we got credit for the same, by debiting the branch of the revenue which receives the benefit of our services in its behalf, in the earnings account. Moreover, the stability

WRIGHT'S IMPROVED LOCOMOTIVE TRUCK.



top of the bolster, as shown in the figures last referred to. The center-pin *b b* extends through the center-plate, the bolster and the bed casting. In the latter a groove, *c c*, figs. 2 and 3, is cast, so that when the bolster *B* moves laterally on the bed casting the center-pin can also move freely in the same direction. It will thus be seen that the center of the engine, when this arrangement is used, can move laterally with perfect freedom, and, owing to the large bearing surface on which the bolster rests, there is no danger of its becoming fixed in one position so as not to move with ease.

The extreme simplicity of this form of construction commends it. It has only two pieces not used in the ordinary form of truck, the one the saddle *A* and the other the bolster *B*. These are made of cast iron, and require no machine labor excepting where the latter is attached to the frames of the truck.

It was designed and patented by Mr. R. C. Wright, who is the chief draftsman of the Baldwin Locomotive Works, and who may be addressed for further information at No. 500 North Broad street, Philadelphia.

Railroad Ethics.

The following address was read to the General Ticket and Passenger Agents' Association by A. V. H. Carpenter, General Ticket Agent Chicago, Milwaukee & St. Paul Railway, at the Saratoga meeting, Sept. 17:

MR. PRESIDENT AND GENTLEMEN: Time was when the handling of any matters supposed to be the subjects of monopoly of religious institutions, in a meeting for secular purposes, would have excited the holy horror of the sanctified few who claimed to be the only legitimate door-keepers in the house of the Lord, and been received with ridicule, if not derision, by

with a mild rebuke from "Him who spake as never man spake." In fact they were the only ones who received a scathing denunciation at His hands; He had kindly words for the erring in all other ways. Speaking from a general knowledge of the situation, the writer has no hesitancy in saying that the railway men of this day are not below par in respect for or practice of the real Christian virtues. There is no arrogance in this claim, for one is never rated above his own estimate, save by the internal revenue collector. Doubtless all of us—like the average of mankind—might, advantageously to ourselves and the world, cultivate a more intimate correspondence with that place where moth and rust do not corrupt, and where thieves do not break through nor steal.

In the fraternal spirit inspired by such thoughts, and the good fellowship of a comrade in this grand cosmopolitan service, your humble servant appears before you to "speak his piece," in obedience to the behest of our respected President, and in pursuance of a happily-inaugurated custom having reference to the aesthetics of our profession.

"But how the subject theme may gang,
Let time and chance determine;
Perhaps it may turn out a sang,
Perhaps turn out a sermon."

Possibly your criticism will find neither rhyme nor reason in what I have to say. However that may be toward the matter or the manner of the author, I am sure of your kindly indulgence toward him in person.

It may be fairly taken for granted that you are not hankering after a dissertation on matters pertaining to the dry details of our routine duties, but prefer, rather, something which has rest stipulated for in its premises, or wrought out in its consideration—something to lift us from the bed-rock on which our daily life grinds its daily grist; something to stimulate a higher range of thought than can find room in our brain in the dust and heat of work-day life.

In the first paper read before you, you were treated to an able and salutary dissertation upon that branch of the passenger service embraced in the design and scope of this institution

of passenger rates is often at the mercy of an ambitious or indiscreet agent. A freight agent bills a car of hoop poles at less than joint tariff rate, or a general agent gets excited over a car of hogs, and gives an extra return pass to secure the contract, and it happens that between these two competitors the passenger traffic of the line whose agent secured the hogs offers the most vulnerable point of attack to the other side, away go the rates with as little compunction as a litter of blind kittens would be drowned. The owners of the property see the tumble in the passenger rates without knowing the cause, and the result is a bad odor attaches to our skirts therefore; sometimes, but seldom, the boot is on the other foot. Again, in case of a fight between rival lines, when the time for settlement comes, a convention is called and a seven story and mansard agreement is entered into, embracing all the details of local administration as well as the matters in issue on competing business. The result is, some, or all, of the parties find they have got their foot in it, and a row at home is imminent. Then comes a detaching of one timber after another of the fine temple, dedicated to *future* virtue, until the building gets so badly stripped of its ornaments and fine proportions, that it loses the respect of the builders, and they go at it pell-mell to abolish the remainder of the unsightly structure. This matter needs no further elucidation at my hands; the ruins of those edifices are to be met with wherever we turn.

In the next place, success in any campaign depends as much on the rank and file as upon the commanders. The ticket-seller and traffic solicitor constitute the rank and file in our lines, and the same law which regulates the elements of success in other lines of business prevails here. A good commercial salesman must be *au fait* in the qualities of the commodity dealt in, of good address, ready command of language, entire self-control, quick insight, energy and push, also a good supply of personal magnetism; diamond pins and rings, big gold watches and chains, fast horses and their concomitants, are not indispensable in these times. The crowning qualities of those who are to come *vis-a-vis* with the people—whose dollars and good-will we are after—are good character and modest self-respect. With such men in the places indicated, and the associations they would have, there would be much less cutting of rates than now, as a very great proportion of such operations, within the control of the department proper, is owing to incompetency in those who handle the business, to get what they consider a fair proportion of trade on a square deal. A poor line well worked will crowd a good line indifferently handled.

"To win dame Fortune's golden smile,
Assiduous wait upon her,
And gather gear by every wile
That's justified by honor."

is the admonition. The community require educating in railway affairs, and from none do the people get their ideas of the institution more than those with whom they are in daily contact. How many managers have time or inclination for these detail matters of administration? How many fall for want of attention to the components of their organization, if they manage to keep within the letter of the regulations? How many can hold the plow and drive a long team at the same time, and do both well? By how many commanders-in-chief of railway forces is the ticket-seller estimated of more consequence than the performer of mere routine duties, of the same (pay roll) grade? How many regard his work as merely automatic handing out bits of card-board and taking in currency and scrip sufficient to cover the marked price thereof? How many stop to think that the value of those little bits of

card or paper depends upon their convertibility into cash, and that it is the rule, rather than the exception, that this process requires the service of a master-mind in all that pertains to the tradesman's art?

On the other hand, what proportion of our ticket-sellers or solicitors would be considered eligible, by any average business man, in the commercial line, to represent him before the public and be entrusted with the disposition of his wares?

These are pregnant questions, and hug the matter of maintaining rates, and acting by the square, most closely.

But a graver element of demoralization than any yet named is the commission system, as commonly handled. Whether or not it is an evil, *per se*, is an open question, and probably never will be settled satisfactorily to all. Your speaker is of the opinion that there certainly is nothing in it at variance with the exercise of a wise economy, when handled by competent men, but rather has many points in its favor. Firstly, very few ticket sellers are paid sufficiently. The salaries allotted to that arm of the service are not generally sufficient to attract or hold the most profitable men to fill such positions. Secondly, the commissions are mutually beneficial; they enable the railways to retain the services of a more competent class of men than they could do without a direct increase of compensation. And, on the other hand, the agents feel the stimulus of the incentive to make their volume of business as large as possible. Ah! says one, do you pretend to say that the aggregate of travel is increased by any such agency? Of course I do. Man-kind are as susceptible to external influences in this direction as in any other; and a sharp, popular agent has no more difficulty in working up trade by inciting men to travel, who would not do so otherwise, than the expert dry-goods clerk has in overcoming the scruples of the ladies about the expense of a fine dress pattern in its season; and give him the incentive and he will try—without it he may, or he may not—ten to one on the latter.

These views are not of recent date, but are the result of long experience and observation; they are not introduced as a sop for popularity among that very useful class of our fellow-laborers, more than what I am about to say is a bid for favor at general head-quarters; which is, that the commission business, as it has been done in times past, is an unmitigated fraud upon the innocents, for which both parties to the transaction are at fault. The ticket-seller, by allowing his greed to demand, or his simplicity to accept, more than a reasonable amount for the service; and the general ticket or passenger agent who yields to exorbitant demands in this direction, or throws away the money of his constituents in tempting men to that which their better judgment condemns—to gain a little temporary advantage—reap the reward of other spendthrifts in the end.

It is in the abuses, not in the system itself, that the grounds for its condemnation are found, and therein arises the grief among the participants when the misused bounty is cut short by the outraged constituents. Wherein this matter affects the question of rates vitally is the practice among the sharp ones of using a portion of their exorbitant commissions in subsidizing people to patronize them by sharing a portion of their commissions with them.

Another lion in the path is the too common practice of giving undue attention to through business at the expense of local traffic, and thus keeping the combative energies all alive. Of course there are lines dependent greatly, if not entirely, on through business; but these are such as have been constructed to appease popular clamor, for political effect, to swallow some land grant, or for some other speculative end having no relation to a legitimate business enterprise; or where they may be built to connect far distant great business centers, with nothing but the "presence of God" between. But in most cases where this suicidal policy is adopted, it proceeds from such motives as are generally attributed to those who commit *jeuneur de se*.

It may not be amiss, in passing, to stop to say, that to this practice of courting the patronage of strangers to the neglect of developing and fostering a home business is greatly attributable the facility with which communists and demagogues have fired the popular heart against railways.

Now, these are some of the obstacles in the way of maintaining good faith in all cases, even if we would. There is no doubt but that there is an abundant scarcity of the qualities which distinguish saints and angels among us, yet that we are more wicked in these respects than the average of men, I am not willing to admit. Still there may possibly be found those among us whose ethics are gauged like too many men in community, who would scorn to do a dishonest act between man and man, but when it comes to a matter where a corporation is a party, or one side, they seem to consider it doing God's service to beat the one which is popularly supposed to have no soul—but which is really composed of many souls—generally, those who do the public the most good.

Herein is sufficient for your consideration in the interim between this and our next meeting. Put these matters in your pipes and smoke them, and they will be better for you than the quantity of tobacco these sheets would hold, if done up in the most artistic manner. These questions are not new to those of us who have had railroad experience enough to fit us to be trusted away from camp without a guard, yet they are profitable to us all to keep ever in mind. Old Hundred, Coronation, Sweet Home, Auld Lang Syne, Dixie, Star-Spangled Banner, are not new, yet when will they ever become old to us? Of course, an exhaustive array of topics, or an elaborate essay on either, has not been attempted. In these times it don't pay to stop to prove by force of argument that a man is not a horse in a paper like this; let it be boldly stated as a fact—any one has a right to challenge it, of course—and if he throws down the gauntlet, the burden of proof is on him.

These obstacles in our path, either singly or combined, do not relieve us from the personal responsibility to do our duty, and so far as in us lies, maintain good faith, and obey the eighth and ninth articles in the decalogue as inviolate with regard to corporations as with individuals. Where'er our honor grips, let that eye be to our border—

"Its slightest touches, instant pause,
Debar's side pretenses;
And resolutely keep its laws,
Unaring consequences."

These difficulties are but a trial of our manhood—and we should never shame it by yielding, but, rather, let us take arms against them—and by opposing, do our best toward ending them, and so wash our hands of any stain therefrom.

In approaching the conclusion of this discursive paper, it is proper to remark that there is no personality in it; it is aimed simply at the crudities and abuses of our system. It is not the history of any one's experience, yet it recounts difficulties which all are liable to encounter, and which, at one or another time have, singly or in force, crossed the path of most members of the profession.

Furtherest from all is any intention to reflect on any management; the writer would not lay a straw in the way of any railway official—they all have enough to overcome from outside pressure. It is a pleasure ever to propose defenses rather than aggravate in the statement of any fault of any member of the great railway church. There is no assumption of the role of oracle in the affairs of the ranking departments of the service.

The passenger department is apt to be regarded as a free-and-easy branch of the service, and it seemed necessary that some idea should be given of what has to be encountered, that our neighbors in and out of the business may take the dimensions of our procrustean bed, and see how they like it. In-

stead of being a sinecure, it requires brain, culture, experience and indomitable energy to handle it successfully. If any one is skeptical on this point, let him take a look at the experiences of the roads where tyros have been entrusted with the running of the machine.

Our dealings are with men, and about men. It is said no man knows the quality of a person until he has traveled with him. It will take the romance out of any rose-colored view of the superiority of man, as an animal, to see him in the role of a querulous passenger, and have to cater to his caprices and confront his selfishness whenever a corporation is the "party of the second part," which suggests the idea that our ranks should be recruited from among those who have had practical experience in these matters.

Comrades,

"The fault is not in our stars—
But in ourselves"—(if we are underlings.)

Hitherto we have not asserted the God-like, in us, to the extent demanded by the circumstances, but have too much enacted the part of sounding-board to echo forth the sentiments of others; we have come together, had a good time, as it was called, passed all sorts of resolutions rehearsing of the current platitudes on the subject of public virtue—either as a salve for some past obliquity, or to "circulate at home." After all this was disposed of, then we would address ourselves to the legitimate business of the Association and find half of those whose prerogative it is to give the ruling rates absent—gone home, probably, so as to keep their expense vouchers within the limit of their allowance—and after giving as good a guess as possible at what the rates should be, so as to fill out the sheet, the remainder would disperse. It is different now; the business of the Association comes first, and by the time that is done, the buncombe with which we come charged gets evaporated, and we don't attempt to regulate the policy of ranking departments nearly as much as formerly.

But in those days the Association was in its boyhood, and we were like other boys—not worth as much before the nonsense was out of us as afterwards.

Then let us up and be doing in this new departure. Let us show that we have ideas of our own; above all, let us show to the world that railways are not something apart from the life of the world, nor antagonistic to any interest therein, but part and parcel of the great commonwealth, and in sympathy with all that tends to the advancement, not only of the material, but moral interests of all.

Under the influence of thoughts which stir us upward, we shall be on the ascension path. A certain eminent divine once remarked, that it had been said that "God's noblest work was an honest man;" he accepted that, but would add, "Man's noblest work was an honest God."

In conclusion: Whether the general railway interest shall reach the mark of its possibilities, depends upon the nature of the organization and character of the service stipulated for by the constituents thereof. Whenever and wherever competent men, who believe in and deal with an honest God, unity of responsibility in each department, and each given the just credit for its quota of contribution to the general welfare, are combined, there will be fair probability of a realization of what is so earnestly desired, in the way of maintaining good faith and working in harmony, and when this is accomplished may we all be there to see.

Cheap Freight Transportation.

The following remarks by Mr. Wm. P. Shinn are from the discussion at the Pittsburgh Convention of the American Society of Civil Engineers on the Report of the Rapid Transit Committee, as reported in the October *Transactions*:

MR. WILLIAM P. SHINN.—When last I presented the subject of cheap freight transportation to the Society (at the Fifth Annual Convention, in Louisville) it was beginning to attract the attention it deserves—of engineers from a scientific point of view; of capitalists from a financial point of view, and of commercial men from a business point of view—the cheap transportation of their products or wares. Since then the subject has passed through almost an entire stage of existence. The investigations made by members of this Society, and published in *Transactions*, have rendered prominent the scientific side of the question, to a degree not before approached in the history of transportation by rail. For years it was not considered that this subject had any scientific side, but, on the contrary, to be a matter thought of and decided by the experience of those deemed practical railroad men, most of whom were not fitted by previous education to examine into the question from a positive standpoint.

The attention of engineers having been drawn to the subject, they have shown this Society, the profession at large, and the public, that it has not only a scientific side, but that to an exhaustive and complete investigation thereof we must look for economy in freight traffic. What is popularly called "cheap freight transportation" has little reference to any scientific consideration of the subject; it means carrying so many tons of freight so many miles for so many dollars, without much regard to whether such is done economically or well; but I hold that the public is as much interested in transportation being well, as in its being cheaply done. To accomplish this, the rate paid for transportation must be an equivalent for the service rendered; if less than this, the carrier cannot afford to conduct the business, and we may take it for granted he will not, for any length of time. Still, spasmodic reductions of rates, such as now are frequent—the result of what is commonly termed "railroad wars"—may continue. It is doubtful whether these "wars" benefit either the producer or consumer. They unsettle values, make it impossible for parties doing a business which requires capital and time, to achieve satisfactory results or to calculate as to the cost of their products. They may have to pay to-day 25 cents, and next week 100 cents, per 100 pounds for transporting the same material. This unsettling of values renders business to a certain extent speculative, uncertain and hazardous, and consequent allowance must be made in fixing prices. Many of us know that producers get little benefit from these low rates, nor do consumers get more; all parties (excepting, perhaps, speculators and middlemen) would be better served by rates, uniform at least for seasons, if not for years, that would be remunerative to carriers and induce them to transact their business in a business-like way, and to seek constantly to improve it and give better satisfaction to shippers.

The remarks before made by me, referring to the immediate branch of the subject then under consideration, viz.: transportation of cereal products of the West to tide water, were partially in reply to and a criticism upon remarks of other members to the effect that water transportation only could relieve the country from high freight rates. I sought to show, what was not generally known, and has been disputed by railroad men, that the cereal products of the West could be and had been transported from Chicago to tide water for 7 mills per ton per mile. My remarks were put in print (not in *Transactions*, but in some public newspapers and railroad journals) without reference to what those who preceded me had said, whence it appeared as if I had endeavored to show that generally freight could be transported for 7 mills per ton per mile, and this was severely, but unfairly, criticised by railroad managers and freight agents, who thought they understood the subject.

I also stated at that time, that when health and engagements permitted I would demonstrate to the Society the truth of what I then asserted. I regret not as yet having had the opportunity to prepare and present the results in a paper, as contemplated.

I will, however, recite some facts which justify me in saying that the statement made at Louisville may be considered as proven.

In the report of the Pittsburgh, Cincinnati & St. Louis Railway Company for 1874, the average cost per mile of all the traffic is given at 0.914 cents, a fraction over 9 mills upon an average haul of 139 miles, or 72 per cent. of the length of the road, 193 miles. It must be apparent that the cost of through freight—a great deal of which needs no handling, switching or transferring between the termini by the company—could not have exceeded seven-tenths that, or 7 mills per ton per mile.

In the reports of the Lake Shore & Michigan Southern Railway Company for 1872, it is stated that on an average haul of 208 miles on a line 540 miles long, the cost for freight traffic was 0.92 cents; for 1873, with an average haul of 208.6 miles, average cost was 0.946 cents, and for 1874, with an average haul of 191.4 miles, the average cost on all the traffic of the road was 0.767 cents, or 7½ mills per ton per mile upon an average haul less than 40 per cent. of the length of the road. The through traffic of these lines therefore cost not exceeding 6 mills per ton per mile.

In the report of the Pennsylvania Railroad Company for 1873, the cost of all freight traffic was 0.857 cents per ton per mile on an average haul of 138 miles, less than 40 per cent. of the length of the main line, 355 miles. The committee appointed by the stockholders of this company to report upon the value of the property, in discussing this subject, expressed an opinion that the cost of through traffic on this line for 1873 was 7 mills per ton per mile; the average cost of all through traffic, which consists largely of bulky goods going west, and wool, cotton and other similar goods going east, freight of which a car can only carry from one-half to two-thirds of a standard load. Members of the Society will see that the cost of transporting cereal products which go in loads of from 10 to 11 tons, frequently on whole trains without handling by the company at either terminus of the road or shifting of the cars between the termini, must be done at a cost less than that of the average of the whole traffic, or less than 7 mills per ton per mile; hence, I regard the proposition referred to as proven.

I should here say that, in speaking of cost, a railroad man always means the expense to the company in conducting the traffic, including maintenance of road and machinery used, but does not include interest on the capital invested.

The subject of watered stocks has often of late been referred to as a cause for high freight rates; the argument is that the stock being watered, and thereby the amount increased, the managers find it necessary to pay a dividend on the increase, and therefore must charge correspondingly higher rates. Investigations have been made and figures brought forth to prove that the increase of capital stock bears no relation to transportation receipts; from a scientific point of view this is hardly worth discussing. However, if railroad companies are paid for carrying freight, they must have some interest on the capital invested, and therefore cannot be expected to conduct traffic at the rates I have named; a small addition, however, to the rate per ton per mile on the traffic of main lines will pay a dividend on capital stock; a calculation made some years ago in reference to a main line of railway showed that an addition of 3/4 mills per ton per mile would pay 7 per cent. on the capital and debt of that railroad.

I have remarked that this subject has passed through one stage of its existence. All of us have heard of the Grangers, of the demand that their products be transported to tide water—no matter how far or under what circumstances—at such rates as would afford to them a margin of profit. They have exploded their own machine. Mr. Adams, Chairman of the Railroad Commission of Massachusetts, has shown that the Grangers have defeated their own plans and carried things too far; transportation cannot be had without someone paying for it. Railroad companies subject to competition between themselves and from water lines of communication, are not likely to charge rates unnecessarily high; at present the rates are unreasonably low.

One effect of the agitation of the subject by the Grangers from their point of view, and by this Society and engineers generally from a scientific point of view, has been to cause railroad companies or their officers and managers to look into and investigate the subject and find out upon what basis it rests; and in doing so they have seen that many economies can be realized. As has been cited, the cost of traffic on the Michigan Southern Railway has been reduced from 0.92 cents in 1872, to 0.767 cents in 1874; it appears also that the necessity of securing back loads has been demonstrated. Some years ago, when I had charge of the freight department of the Pittsburgh, Fort Wayne & Chicago Railway, the company was urged to carry coal to Chicago at a rate some \$2 per ton less than it had ever carried coal before. Empty stock cars were daily run to Chicago, sometimes in full trains. I favored loading these cars at the best price to be had, and obtained the approval of the officers. The number of cars loaded that year was small, but mainly in consequence of that policy the percentage of empty car mileage was reduced from 26.4 per cent. to 22 per cent. of the whole car mileage, and in two years more to 17.4 per cent.; thus, in three years after this plan was adopted, the empty car mileage on that road was reduced to 17.4 per cent. of the whole car mileage. The further result has been that to-day the principal traffic in these cars is of coal and coke from Pittsburgh to Chicago, and live stock is sought for as a back load.

Of course, all roads cannot carry out this policy to that extent. This railway had an advantage in Pittsburgh being its Eastern terminus—few Eastern railroads have the opportunity for back loading thus afforded; but every railroad can, by encouraging return traffic at low rates, more or less develop new traffic, load cars now returned empty, and thereby bring about an economy which will enable the whole traffic to be done at a reduced rate per ton per mile. As a general rule, based on my experience, eventually railroad companies give to the public all the benefits of improvements made, in the manner and cost of doing business, so that the result of our discussion and these agitations will be that rates of transportation will be reduced until minimum cost is reached, probably not far from 5 mills per ton per mile for cereals and similar products taken in whole car-loads long distances.

To do this will require improvements in equipment; the proportion in freight cars of dead to paying weight is still too great. They weigh from 9 to 10 tons each, and carry but 10 to 11 tons. This ratio must be lessened, and to the members of our profession the railroad companies must look for improvement in this particular.

[After some remarks by Mr. Wilson Crosby on the importance of reducing speeds and other arrangements such as will permit an increase of train loads, and some reference by Mr. W. Milnor Roberts to the instances of very cheap water transportation cited in the Report of the Senate Transportation Committee, etc., and by Mr. Francis Collinwood on excessive terminal expenses at New York, Mr. Shinn continued:]

When I refer to a probable reduction in the rates to 5 mills per ton per mile by changes in equipment, etc., the actual cost is meant. I do not expect that railway transportation will be done at this rate, with profit to the companies sufficient to provide for interest on capital invested. No railway company in this country can afford to carry freight (except perhaps iron ore and coal transported long distances) for less than 8 mills per ton per mile, the figure named by Mr. Roberts; and general traffic, including lighter articles (such as cotton, dry goods, etc.) for less than one cent. per ton per mile as an average rate, until

by the general adoption of steel rails and improved equipment the average cost is sensibly reduced.

Since I have called attention to this subject it seems to have become one of general interest to the Society; several members have discussed it, and I hope others will do so. I will contribute what I can from time to time, but the subject is too large and the field too broad to be covered by any one or half dozen of us. It must be carefully viewed from all sides, and with a purpose to reduce dead weight and increase back loads.

Referring to terminal freight facilities, I would remark that the trunk lines running into New York all allow \$1 per ton for terminal expenses, which are said to cost even more; thus, the traffic taken across the Hudson at Jersey City, is said to be done at an expense for ferriage to New York City, or to vessels in the harbor, of \$1.40 per net ton. This terminal charge is deducted from the through rate before a division is made between the several lines; so that when freight is taken from New York to Chicago for 25 cents a hundred pounds,* one-fifth of this is required for terminal charges, which is a great tax upon transportation.

Contributions.

Economy and Durability of the La France Rotary Engine.

ELMIRA, N. Y., October 14, 1875.

TO THE EDITOR OF THE RAILROAD GAZETTE:

We observe the doubt expressed in your last issue as to the economy and durability of the La France Rotary Engine, and beg leave to give you our experience with the same. We have had several of these engines in use at our rolling mills and blast furnaces for pumping purposes for the past three years. During that time we have never had to expend a dollar on them for repairs. We consider them more economical in the use of steam and more durable, for all purposes, than piston engines, and are now having one manufactured to run an ore crusher at our furnaces.

THE ELMIRA IRON AND STEEL ROLLING MILL CO.,
H. W. RATHBONE, Treasurer and Secretary.

THE SCRAP HEAP.

A Reasonable Woman.

The Detroit Free Press says: "At one of the railroad depots the other day, a lady walked up to the ticket-window and, smilingly, said: 'I know just how women are, and I don't propose to bother any one. Answer me a few questions, and I'll sit down and say nothing to no one till train time. How far is it to Grand Rapids? What's the fare? When does the train leave? When do we arrive there? Where do they check baggage? Which track will the train start from? How can I get to Muskegon from Grand Rapids? How far is it? What's the fare? Do I change cars? Is there a palace coach on the road? Shall I get a lay-over ticket? Can I check my baggage clear through? Is there a conductor on this road named Smith? Do you allow dogs in the passenger cars? and can a child ten years old go for nothing?' Having been answered, she kept her promise to keep still, and the depot policeman never had the least bit of trouble in seeing her off."

Railroad Manufactures.

Waterman & Beaver, of Danville, Pa., have a contract for 400 tons of light rails for the Peach Bottom Railroad.

The proposition made by the Philadelphia & Reading Coal & Iron Company to the furnaces on the line of the Reading road to furnish them the coal, ore and limestone needed and take the pig iron, paying a fixed price per ton for manufacturing, has been accepted by eight furnaces having an annual capacity of 50,000 tons. They will blow in next month.

The Taunton (Mass.) Locomotive Works are building 12 engines for the Union Pacific road. They have cylinders 18 by 24 inches, with 6½ feet driving wheels.

The Swift Iron & Steel Works, at Newport, Ky., have 31 single boiling furnaces, 14 heating furnaces, 8 trains of rolls and 1 trip-hammer. They are making preparations to manufacture chrome steel.

The Valley Furnace, at Sharon, Pa., is making Bessemer pig for the Cambria Iron Company at Johnstown.

The Cleveland Iron Company is running its Lake Shore Mill on rails for the Cincinnati Southern road. The company has an order for 4,000 tons of light rails for the Scioto Valley Railroad.

The Union Iron Works, at Cleveland, O., have orders ahead for several months. They are running now on street rails and merchant bar.

The Loomis Nut-Lock Washers Company is turning out its patent nut-lock washer at the rate of 2,000,000 per annum.

The National Locomotive Works of Dawson & Bailly at Connelville, Pa., have orders for two narrow-gauge passenger engines to be ready Nov. 1, and two freight engines to be done Jan. 1, all for the Wyandotte, Kansas City and Northwestern road.

The Joliet (Ill.) Iron and Steel Works one day recently turned out 404 rails during the day turn and 405 during the night turn. The rails were of the 60-pound pattern, and their aggregate weight was 216 tons.

The Columbus (O.) Steam Pump Works manufacture a variety of pumps, and are now turning out a number of the Weinman patent.

It is said that valuable deposits of iron ore have been discovered on Bear River, on the borders of Yuba and Nevada counties, in California, 35 miles from Sacramento, and near the line of the Central Pacific's Oregon Division. The Bear River Iron Company has secured two tracts, one of 246 and one of 124 acres, and is actively engaged in developing the property. At the recent annual meeting of the Thomas Iron Company at Hokendauqua, Pa., Benj. G. Clark, John T. Knight, Wm. W. Marsh, Daniel Runkle, Charles Stewart, David Thomas and Samuel Thomas were chosen directors.

Mr. A. P. Odell, of Oil City, Pa., has invented and patented an oil tank car in which the tank is suspended below the platform, instead of resting upon it. The idea is that the car can be used to carry other freight on the return trip, when the tank is empty.

The Wason Manufacturing Company, of Springfield, Mass., has just received an order for 12 first-class passenger cars for the New York, New Haven & Hartford Railroad.

The Rogers Locomotive Works at Paterson have two engines to build for the Connecticut Western road.

At the Pennsylvania Railroad shops at Altoona, Pa., orders have been given for 24 new engines, work on which is to be begun at once. They are to be completed by Jan. 1.

The Pennsylvania Steel Company at Baldwin, Pa., has declared a semi-annual dividend of 3 per cent. in cash and 3 per cent. in stock, payable Oct. 15.

The Cummings Car Works at West Bergen, N. J., are repairing and overhauling a large number of gondolas and flat cars for the United States Rolling Stock Company.

The Co-operative Iron & Steel Works, Danville, Pa., are running on an order of street rails for Philadelphia, to be used in extending the street railways out to the Centennial grounds.

The sheet-iron mill of Bradley, Reis & Co., at New Castle, Pa., is running full double turn.

A note from Ironton, O., says: "The new Etna Furnace is

making 65 tons of No. 1 foundry iron every 24 hours, and the new Ironton furnaces owned by the Iron and Steel Company are making 45 tons of the same grade per day. Rolling mills and nail mills are running, times are brightening and stockholders are elated, many of whom are the operatives."

The rolling mills at West Middlesex, Pa., have stopped for the present.

The Red Bank furnaces, Reynolds & Moorhead, Clarion County, Pa., will be blown out as soon as the stock on hand is used up.

The Albany & Rensselaer Iron & Steel Company has the contract to furnish the rails for the new Springfield & New London road.

Quick Work in a Rail Mill.

In the steel rail mill of the North Chicago Rolling Mill Company, Oct. 8 and 9, the feat of rolling 1,010 rails in 20 hours was accomplished. In the night turn from 5.35 p. m. of Oct. 8, to 4.07 a. m., Oct. 9, 504 rails were rolled, and in the day turn, from 5.07 a. m., to 3.13 p. m., Oct. 9, 506 were turned out. During the working hours the engine was stopped 34 minutes for oiling, leaving the actual running time 20 hours and 10 minutes. The rails weighed 60 pounds to the yard, were 30 feet long, and were made for the Rock Island road, their total weight being 268 tons, 1,900 pounds. The work was done by eight furnaces and a 20-inch train of fifteen pass rolls. In the Bessemer works of the same company on the night turn of Oct. 8, 62 heats were blown, yielding 324 gross tons of steel ingots. For the week ending Oct. 9 the works made 253 heats, the product being 1,317 gross tons of steel ingots.

ANNUAL REPORTS.

Central, of Georgia.

From advance sheets of the President's report for the year ending Aug. 31, 1875, we obtain the following figures. The road worked was the same as for the previous year, as follows:

Central Railroad:	Miles.
Savannah Division, Savannah to Macon.....	192
Atlanta Division, Macon to Atlanta.....	102½
Augusta Branch (Gordon), Millen to Augusta.....	53
Eatonton Branch, Eatonton to Eatonton.....	39
	386½

Southwestern Railroad:

Southwestern Railroad:	Miles.
Macon, Ga., to Enfield, Ala.....	143
Muscooke road, Fort Valley to Columbus.....	71
Fort Gaines Branch, Cuthbert to Fort Gaines.....	20
Albany Branch, Smithville to Albany.....	23½
Blakely Extension, Albany to Arlington.....	35½
Perry Branch, Fort Valley to Perry.....	12½
	305½

Upon County Railroad, Barnesville to Thomaston..... 16½

Total..... 708½

The Savannah Division with the Augusta and Eatonton branches are known together as the Savannah Division.

The earnings of the roads worked for the year ending Aug. 31, were as follows:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Savannah Division.....	\$1,552,119 72	\$1,676,560 14	Dec.	124,440 42 7.4
Atlanta Division.....	555,262 96	638,151 65	Dec.	82,888 69 13.0
Southwestern R. R.....	770,726 22	771,560 24	Dec.	834 02 0.1
Upon County R. R.....	8,427 71	9,614 13	Dec.	1,186 42 12.4

Total Railroads..... \$2,886,536 61 \$3,095,886 16 Dec. \$209,349 55 6.8

Central Railroad Bank..... 59,180 88 36,478 67 Inc. 22,702 21 62.2

Total..... \$2,945,717 49 \$3,132,364 83 Dec. \$186,647 34 6.0

The working expenses were:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Savannah Division.....	\$825,952 92	\$943,877 56	Dec.	\$117,924 64 12.5
Atlanta Division.....	347,277 95	544,076 26	Dec.	196,798 31 56.2
Southwestern R. R.....	504,129 00	589,701 90	Dec.	85,572 90 14.5
Upon County R. R.....	9,344 83	9,236 40	Inc.	108 43 0.5

Total railroad..... \$1,686,704 70 \$2,086,952 12 Dec. \$400,247 42 19.2

Central R. R. Bank..... 21,552 66 22,385 92 Dec. 833 26 3.7

Total expenses..... \$1,708,257 36 \$2,109,338 04 Dec. \$401,080 68 19.0

The net earnings were:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Savannah Division.....	\$726,166 80	\$732,682 58	Dec.	\$6,515 78 0.9
Atlanta Division.....	207,985 01	94,075 39	Inc.	113,909 62 121.1
Southwestern R. R.....	266,597 22	181,858 34	Inc.	84,738 88 46.6
Upon County R. R.....	9,917 12	317 73	Inc.	9,599 39 3003.0

Total Railroad..... \$1,199,831 91 \$1,008,934 04 Inc. \$190,897 87 18.9

Central R. R. Bank..... 37,628 22 14,092 75 Inc. 23,535 47 167.0

Total..... \$1,237,460 13 \$1,023,026 79 Inc. \$214,433 34 20.0

* Deficiency.

The average results were as follows:

	Sav. Div.	At. Div.	S. W. R. R.	U. C. R. R.	Total.
Gross earn. per mile.....	\$5,464	\$5,417	\$2,533	\$566	\$4,074
Net earn. per mile.....	2,557	2,029	873	156	1,694
Per cent. of expenses.....	53.21	62.54	65.41	110.88	57.81

The expenses the previous year were 67.41 per cent. of earnings.

In the face of the decrease in gross earnings, there has been a considerable increase in the net result, which has been secured by the strictest economy and close attention to details of operation, together with the general decrease of prices of labor and materials. While the same policy of economy will be continued, it is not believed that much additional saving can be made in the expenses of working. The property has been fully maintained, and is now in better condition than at any time since the war.

Some changes in accounts have been made during the year. Considerable amounts heretofore carried as assets have been charged off. The statements of the Central Railroad Bank will be included in the general balance sheet of this year, instead of a separate one as heretofore. The business of the bank has been nominal and must continue to be so, unless a capital on which to transact business is supplied to it. It is, however, a valuable auxiliary to the operations of the road, and is in that way a source of revenue.

As suggested in the last report, a steamship company has been formed, to which the company's steamers and the Vale Royal property, except the track, sidings and right of way to the river, have been transferred, and stock taken in payment. A separate report made by this company will form an appendix to the Central Railroad report.

In March last an offer was made to exchange the new consolidated bonds at 95 for the \$1,000,000 bonds issued after the war to pay for the reconstruction of the road, which became due Sept. 1. Only \$106,000 of these bonds have thus far been presented, and only \$99,000 exchanged. It is believed that when the interest ceases at maturity most of these bonds will be exchanged soon; should this not be the case, the true policy will be to devote all net earnings to their payment rather than to submit to a greater discount than 5 per cent. on the new bonds.

In addition to these bonds, provision must be made for \$45,000 Southwestern bonds falling due Oct. 1, 1875; \$172,500 Muscooke bonds in January, 1876; \$10,000 Southwestern bonds in March, 1876, and \$212,500 Mobile & Girard first-mortgage bonds (endorsed) in July, 1876, in all \$440,000. It is recommended that all or part of these be paid from net earnings instead of declaring a dividend and selling new bonds at a discount.

The steamboats on the Chattahoochee River have done wel-

during the year, and the company has contributed part of the cost of a light draft boat to run on the Tombigbee from Columbus to Demopolis, Ala.

An account is given of the purchase of the Western Railroad of Alabama for \$3,286,257.02, half payable by this company and half by the Georgia. The remaining bonded debt is \$2,553,000, the interest on which, at 8 per cent., the two companies have assumed. The final arrangements regarding this road have not yet been completed.

Western Union Telegraph.

At the close of the last fiscal year, June 30, 1875, this company worked 72,833 miles of telegraph line, having 179,294 miles of wire and 6,565 offices. The property was represented by \$41,073,410 of stock, of which the company owns \$7,285,935 leaving \$33,787,475 outstanding, and a bonded debt of \$5,946,900.

To provide for the redemption of the bonds falling due in November, 1875, it was decided, in January last, to issue sterling bonds bearing 6 per cent. interest in gold, to an amount which would produce about \$5,000,000 in currency, and arrangements were made for the sale of these bonds at 95, which, it was confidently expected, would result in disposing of the entire loan in Europe. But after purchasing these bonds, amounting to \$1,001,160, the parties with whom the arrangement had been made availed themselves of an option in the agreement to cancel it. Subsequently it was decided to offer the remainder of the issue in 7 per cent. currency bonds at 95, and the whole amount was subscribed for within a few days. The entire issue of new bonds will amount to \$5,001,160, and the product to \$4,751,102 in currency, of which sum \$4,448,900 will be applied, so far as it has not been done already, to the redemption of the bonds, amounting to that sum, which mature Nov. 1 next, and the balance, \$302,202 will go to income account to restore a portion of the disbursements on that account, for the new building in excess of the loan. When these transactions are completed the bonded debt will be \$6,499,100, less a sinking fund of \$87,800.

The number of messages transmitted during the year was 17,153,710, an increase of 5.05 per cent. over the previous year. The number of telegraphic money orders was 34,853, by which \$1,963,247.06 was transferred.

The earnings and expenses for the year were as follows:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Earnings.....	\$9,564,574 60	\$9,262,683 98	Inc.	\$301,920 62 3.3
Exp. and rentals.....	6,335,414 77	6,755,733 83	Dec.	420,319 06 6.2
Net earnings.....	\$3,229,159 83	\$2,506,950 15	Inc.	\$722,209 68 28.8
Per ct. of expenses.....	66.34	72.94	Dec.	6.70 9.3

Out of these net earnings 8 per cent. dividends on the stock, amounting to \$2,702,354, and \$424,334.18 interest on bonds have been paid, leaving a surplus of \$102,471.65.

The net earnings for nine years were \$26,344,056.03, out of which \$11,394,998.52 were paid in dividends and interest. The balance, \$14,949,057.51, was expended in purchase of lines, building of new lines, purchase of stocks, bonds and real estate, and sinking fund.

The company owns \$978,400 of the stock, a controlling interest, in the International Ocean Telegraph Company, which owns the cables connecting the United States with Cuba and the West India islands. This company reports gross earnings \$298,932.83; working expenses and repairs of cables, \$135,068.50; net earnings, \$163,864.33. Out of this \$127,815.78 has been spent in extensions and in repayment of loans, leaving a surplus of \$36,048.55.

The report says: "The growth of the company's property and business during the nine years which have passed since the consolidation with the other principal telegraph lines, is shown by the following statistics:

"From 1867 to 1875 the extent of the line has increased from 46,270 to 72,833 miles, and the wires from 85,290 to 179,294 miles, being an increase of 57 per cent. of line, and 110 per cent. of wire. The number of offices and stations has increased from 2,565 to 6,565, equal to 156 per cent. During the same time the number of messages transmitted has increased 192 per cent., the rate of tolls has decreased 51 per cent., and the gross receipts have increased 46 per cent. The average cost per message, during the same time, has been reduced from 67 to 37 cents, or about 45 per cent. The increase of 192 per cent. in the number of messages transmitted annually, while the mileage of wire has increased but 110 per cent., is explained by the fact that the number of messages transmitted per mile of wire has been increased 41 per cent."

"The ability to make so large an increase in the carrying capacity of the wires is due in part to improvement in their conductivity and insulation, and in part to the introduction of the duplex and quadruplex apparatus, by means of which one wire is made to do the ordinary work of two, three or more wires."

"No general change has been made in message rates during the year. In February last, pursuant to previous public announcement, the rates on the lines of the Atlantic & Pacific Telegraph Company between Boston, Albany, Washington, and intermediate stations, were reduced to a uniform rate of 25 cents. A corresponding reduction was made by this company, which took effect on the same day. The reduced rates, after having been in operation about six months, were abandoned by an arrangement between the companies, and the former rates restored."

"The reductions in message rates made by this company during the past nine years have been greater in the aggregate than have ever been made upon the entire traffic of any other telegraph system, private or governmental, in the same period of time."

Reference is made to the experience of the British Government in operating the telegraph lines of that country. As to the cable business the report says: "During the year covered by this report the United States Direct Cable Company has continued its efforts to establish telegraphic communication by an independent line between Great Britain and the United States, and the completion of the new line had been accomplished before the preparation of this report."

"In May last the Anglo-American Telegraph Company, owning three cables between Valentia, Ireland and Sidney, N. S., by way of Newfoundland, and one between Falmouth, England, by way of Brest, France, and the Island of St. Pierre and Duxbury, Mass., reduced the rate for transatlantic messages from four shillings to two shillings per word. When the United States Direct Company's cable was opened for business in September last, the rate was fixed by both companies at one shilling (25 cents coin) per word."

"During the period of about four months, while the two-shilling rate was in force, the number of cable messages increased about 35 per cent. over the number transmitted during the corresponding period of the preceding year. The shilling rate had been in operation less than a month when the new cable failed; thereupon the Anglo-American Company restored the four-shilling rate in force prior to the reduction which it had made in May last."

"Although, by the terms of a contract entered into five years ago, the cables of the Anglo-American Company connect exclusively with the lines of the Western Union Company, the latter has no voice in deciding what the rates for transatlantic messages shall be. This company receives a portion of the tolls on cable messages between New York and European stations, which tolls are fixed by the Anglo-American Company. As the Western Union Company has been severely censured on account of the advance in cable rates, justice seems to require this statement of facts."

* Said to be the ruling rate at that time.



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CONTENTS.

ILLUSTRATIONS:	Page.	Page.
Wright's Improved Locomotive Truck.....	435	Foreign Railroad Notes.....
CONTRIBUTIONS:		EDITORIAL NOTES.....
Economy and Durability of the La France Rotary Engine.....	437	GENERAL RAILROAD NEWS:
EDITORIALS:		Annual Reports.....
The Railroad Jubilee.....	438	The Scrap Heap.....
The Southern Railway and Steamship Association.....	438	Elections and Appointments.....
A New Field for Railroads.....	439	Personal.....
The Age of Iron and Axles of Steel.....	439	Traffic and Earnings.....
Record of New Railroad Construction.....	439	Old and New Roads.....
		MISCELLANEOUS:
		Railroad Ethics.....
		Cheap Freight Transportation.....
		Train Accidents in September.....

Editorial Announcements.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Passes.—Having been informed that an advertising solicitor has requested passes on account of the Railroad Gazette, we take this occasion to say that all persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns our own opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

THE RAILROAD JUBILEE.

The English papers have long accounts of the celebration on the 27th of last month of the fiftieth anniversary of the opening of the Stockton & Darlington Railroad, the first public railroad worked by steam—not by any means the first railroad nor the first railroad worked by steam, but nevertheless the legitimate prototype of the railroad as we know it—worked by steam and serving as a common carrier.

The celebration seems to have been really a great one—one of the greatest of the kind ever known and perhaps the greatest—something like 100,000 people having visited Darlington, now a city of 40,000 inhabitants, on the occasion, and among them many eminent men, so much so that one of the speakers thought the assemblage at the banquet to comprise "in point of influence and number a larger representation of the wealth, commerce and material progress of this Kingdom than has probably ever been gathered together outside the Houses of Parliament." It was begun and carried out by the Northeastern Railway Company, which now owns the Stockton & Darlington road as a part of its great system of 1,400 miles, and seems to have spared neither pains nor expense to make the celebration worthy of the occasion. That it was so successful seems a little strange to one who has observed the slight mention made of it beforehand in the English newspapers, and suggests that it was due chiefly to the exertions of the corporation; and this fact also perhaps accounts for the fact that in the vast amount of writing on the subject we see so little on the effects of railroads on the condition of the nation and the world—that being a matter not capable of off-hand discussion.

The most striking exposition of their influence which we have seen is that contained in the following brief statement of the amounts of revenue and imports and exports per head of population in Great Britain in 1844, when there were 2,148 miles of railroad, and in 1874, when the length had increased to 16,449 miles:

	1844.	1874.
	£ s. d.	£ s. d.
National revenue.....	1 18 0	2 8 3
Exports of home produce.....	2 2 6	20 11 0
Imports for home consumption.....	2 10 3	11 9 2

The enormous increase in productiveness and consequently in power to consume is strikingly shown by these figures, but perhaps none more so than by the following, giving the amount imported, per head, of some leading articles of consumption in the two years:

	1844.	1874.
	Pounds.	Pounds.
Bacon and hams.....	0.02	0.31
Butter.....	0.78	5.83
Cheese.....	0.88	4.89
Coffee.....	1.10	2.21
Currants and raisins.....	2.08	5.91
Rice.....	1.88	22.85
Sugar.....	19.90	48.84
Tobacco.....	1.95	3.96
Wheat and flour.....	2.72	155.25

The vast improvement in the living of the mass of the population within these thirty years is shown especially

by the imports of those articles not produced in England, such as tea, coffee and sugar; though doubtless much greater benefit has ensued from the more plentiful supply of bread and meat.

But the event has called out a great deal of interesting information, especially of the historical kind. There was much of this at the celebration itself, not only in the many speeches, but especially in the exhibition of locomotives, etc., which, as *The Engineer* well says, "was not only founded on facts, but, unlike history in general, it consisted of facts." Then the newspapers naturally recalled scraps of railroad history, largely reinforced by the statements of men who helped do the work of which they told the story. Such statements, published at a time when there is an eager interest in the subject, call out corrections, explanations and additions; so that this celebration, occurring as it does during the life-time of many who saw the first railroads, is likely to an extraordinary extent to draw out and put permanently on record a great part of railroad history that might otherwise have remained unwritten.

The Stockton & Darlington road was largely the work of a single family—the Quaker family of Pease, which, wealthy and influential, yet in this enterprise succeeded chiefly through a goodly stock of British pluck and perseverance, which had kept the head of it, Edward Pease, at work for eight years from the time he projected his railroad to secure its construction, before he finally saw it begun, and enabled him to overcome the opposition alike of those who favored a canal and those who would prohibit railroads because their game preserves might be disturbed, and the still greater obstacle of the indifference of most of those who would chiefly profit by the line. The tide-water terminus, for instance, gave scarcely any help, and was rather inclined to oppose the enterprise; so that after the road had got fairly to working it moved its shipping wharves out of the town, to the great and permanent disadvantage of the latter. Mr. Pease seems to have been a man who could appreciate and accept and base his action on accomplished results, though novel; there had been railroads in the kingdom for thirty years before the Stockton & Darlington road was begun; but most of them were private roads, and there were few practical men who would venture to construct such a road for public use, notwithstanding the demonstration of their advantage in carrying the freight of mines and other private corporations; and also mine railroads had been worked with locomotive engines for some years, and had proved the economy of steam over horse-power; but it took a man of the character of Edward Pease to venture, and stake his fortune on the venture, to do for a mixed traffic open to the public what several had already done to advantage for themselves. So when George Stephenson, having heard that Mr. Pease had obtained an Act of Parliament for a railroad from Stockton to Darlington, came to him to tell him what he had been doing with his locomotive (hauling coal at the Killingworth colliery), and that his one engine was worth fifty horses, he came to the right man—one ready to see, to understand, to believe in, and to take advantage of the new power which this man of genius was introducing into a world then apparently not much inclined to receive it. Mr. Pease was about fifty-five years old when the Stockton & Darlington road was opened, yet he lived to see more than 8,000 miles of railroad in Great Britain, and the whole life of man there, and in all other civilized countries, greatly modified by this new mode of transportation.

Edward Pease and George Stephenson having come together, and the former having been convinced, further obstacles were overcome in good time, and in three years and five months from the time the first rail was laid the formal opening of the Stockton & Darlington Railroad occurred. It was 20½ miles long, from the port of Stockton, on the river Tees, near the North Sea, westward through Darlington to the coal mines at Brunsellton, 8½ miles west of Darlington, which were expected to furnish the chief traffic. This opening was duly celebrated, and the programme of the exercises gives the composition of the excursion train—the first public steam railroad train—as follows:

- 1.—The Company's Locomotive Engine.
- 2.—The Engine's Tender, with Water and Coals.
- 3.—Six Wagons, laden with Coals, Merchandise, &c.
- 4.—The Committee and other Proprietors, in the Coach belonging to the Company.
- 5.—Six Wagons with Seats reserved for Strangers.
- 6.—Fourteen Wagons, for the Conveyance of Workmen and others. The whole of the above to proceed to Stockton.
- 7.—Six Wagons, laden with Coals, to leave the Procession at the Darlington Branch.
- 8.—Six Wagons, drawn by Horses, for Workmen and others.
- 9.—Ditto Ditto.
- 10.—Ditto Ditto.
- 11.—Ditto Ditto.

This was the first of that immense and never-ending procession of trains that are now the chief carriers of passengers and of freight by land the world over, a procession which in 1874 in Great Britain alone traveled more than twenty millions of miles, carried nearly five hundred millions of passengers, and 190,000,000 tons of freight, employing nearly 12,000 locomotives and 400,000 vehicles; while the mileage of roads out of Great Britain is nearly ten times that in it. Surely this was a small beginning of great things well worth celebrating at the time

and more than justifying the jubilee on the return of its fiftieth anniversary.

Of the speeches on this latter occasion, among the most remarkable was that by Mr. Henry Pease, one of the projectors of the Stockton & Darlington Railroad, at the opening of which he was present, and now a director in its successor, the Northeastern Company. In the course of it he read a record of the proceedings of the original opening celebration, written in the diary of the Chairman of the company on the day following, and told the story of a man who said to the projectors, "It is all very well to spend money; it will do some good; but I will eat all the coals your railroad will carry;" gave an account of some of the difficulties met in using the original rolling stock, without buffers, and paid a great deal of attention to the company's relations to its employees. He also said that from 1825 to 1872, when the Stockton & Darlington was amalgamated with the Northeastern, during the latter part of which time it had an enormous passenger traffic, no one had been killed on the road.

Other toasts were responded to by Sir. C. B. Adderly, President of the British Board of Trade (to which British railroad companies make their reports); by Mr. Richard Moon, Chairman of the London & Northwestern, the greatest British company; by Sir Frederick Peel, of the new Railway Commission; by the Lord Mayor of London, and by Mr. T. E. Harrison, President of the Institution of Civil Engineers, and, by a happy coincidence, Chief Engineer of this very Northeastern Railway, as well as by others eminent in England; and among those present were hundreds of other eminent men, among whom we notice the name of the venerable Charles Vignoles, who is said to have traveled nearly 2,000 miles to attend the jubilee.

The event and its results call to mind the fact that the jubilee year of American railroads is not far distant, and that we too have an interesting railroad history unwritten, but largely in the minds of the men who made that history, still flourishing among us, but of course disappearing year by year, and, for the most part, leaving no record behind, or none but the vague recollections of those with whom they have talked over their early experiences. We wish we could say something to induce these men to write out their recollections. We will not be able to celebrate our railroad jubilee immediately, but the coming centennial of the nation affords a good occasion for writing the history of our achievements in railroad transportation as well as in other departments. Every year we wait we lose something. And perhaps the most efficient way to secure a complete history will be for each company to set about collecting materials for the history of its own lines. Probably not all these historical materials need be printed; but much of them should be, and will be of absorbing interest to all railroad men. We are sure that many of our readers are able to contribute such materials, and we hope to be able to present in these columns hereafter the substance of their recollections.

The Southern Railway and Steamship Association.

One of the most interesting and promising experiments in the management of competitive business ever made in this country is that which has been just begun by an association with the above title, having its headquarters at Atlanta. This association, or rather its predecessor, having most of the same companies as members, has for some time endeavored to remedy the excessive competition of the railroad and other carriers which transport cotton to the Atlantic coast and northward, the result of which has been to destroy the profits of most of the lines—lines, by the way, which, on account of their very low capital accounts, can make good dividends from small net earnings. But the attempts hitherto have failed, either from the refusal of some companies to join in them, or through distrust, jealousy and unwillingness to abide by the regulations made. The new plan, which went into effect on the 15th inst., was one suggested by Mr. Albert Fink, and the Association has been so fortunate as to secure the services of that gentleman to carry it out. The plan, as we understand it, substantially is to have a single agent to conduct the competitive business of all lines competing for that business, in a manner to be agreed upon as heretofore, when the competitors can agree; but to be left to the decision of an umpire called a "General Commissioner" when they are unable to agree, which General Commissioner will endeavor to carry on the business as if the roads were a single property—which is the only way in which it can be conducted with the greatest economy. Mr. Fink is this General Commissioner.

Doubtless our readers will desire to know more in detail the plan of this Association. We are glad to say that their wish will be gratified by Mr. Fink himself, who has promised to treat the subject fully in our columns.

We think that we may reasonably expect important results from this experiment, conducted as it will be by the man best qualified for such a work. We have heretofore endeavored to show the horrible wastefulness of the usual methods of conducting competitive traffic, by which it is inevitable, whatever the profits or losses of the several

companies may be, that the cost of doing the work is much greater than it might be. If this new experiment shall succeed as well as is confidently expected, it will certainly be imitated elsewhere in the country, and railroad business throughout the country will be greatly modified by it.

Foreign Railroad Notes.

The official report of the Prussian Government on the railroads of the Kingdom for the year 1872 gives statistics from which we have calculated the following table of the average receipt per mile for each of the four classes of passengers on the whole system of Prussian railroads for a series of years, the values being given in cents in American specie, which to agree with American currency should be increased one-sixth at this writing:

	Receipts per passenger per mile in cents.				
	1st class.	2d class.	3d class.	4th class.	Average.
1863.....	3.56	2.33	1.40	0.835	1.594
1865.....	3.56	2.26	1.48	0.819	1.519
1867.....	3.58	2.19	1.43	0.851	1.512
1869.....	3.40	2.10	1.35	0.807	1.454
1871.....	3.33	2.03	1.36	0.815	1.466
1872.....	3.32	2.05	1.31	0.812	1.424

The rates for the last year were equivalent to 3.87 cents for first-class, 2.39 for second-class, 1.53 for third-class, 0.947 for fourth-class, and 1.661 cents per mile for the whole travel in American currency October 19.

There is apparent a gradual reduction in the average rates during the ten years, amounting for the entire period to nearly 7 per cent. on first-class rates, 12 per cent. on second and third-class, 3 per cent. on fourth class, and to 10½ per cent. on the average.

The first-class traffic formed but a small proportion of the whole traffic—7½ per cent. in 1863 and 8 per cent. in 1872; the second-class was 36½ per cent. in 1863 and 35 per cent. in 1872; the third-class 42 per cent. in 1863 and 39½ per cent. in 1872; the fourth-class 14 per cent. in 1863 and 17½ per cent. in 1872. The amount of traffic increased nearly 14 per cent. in the 10 years—from 2,497 passengers of all classes per mile of road in 1873 to 2,894 in 1872—but it was but one-third of 1 per cent. more in 1871 than in 1863, and then there was a constant decrease from 1864 to 1871.

The managements of the Magdeburg & Halberstadt and the Magdeburg & Leipzig railroad companies have proposed to the German Railroad Union that the different managements in the Union, instead of hiring freight cars from car-leasing companies when their traffic is too great for their equipment, hire from each other at some agreed rate, and that to facilitate this periodical announcements of "Cars Wanted" and "Cars to Let" be published, so that any road needing cars may know just where they can be had, how many, and of what kind.

On the Saxon railroads in 1874, according to the excellent government report recently issued, the total weight hauled in trains was made up as follows:

10.04 per cent.	was locomotive.
8.00 "	" tender.
13.14 "	" passenger cars.
24.15 "	" covered freight cars.
16.97 "	" open freight cars.
76.36 "	" dead weight.
0.99 "	" passengers.
22.65 "	" freight.
23.64 "	" net load.

According to this, a 20-ton locomotive would on the average haul 26.28 tons of passenger cars containing 1.98 tons of passengers, and 82.24 tons of freight cars, containing 45.30 tons of freight—only, of course, the same engine did not usually take both passengers and freight. The proportion of net load varied on different roads from 31.07 per cent. of the total down to 10.83 per cent.

The report gives the bulk of traffic over every section between any two stations on all the railroads, giving 195 such sections on which it was possible for the amount of traffic to be greater or less than the average of a whole line, the average length of such a section being about 3½ miles. On these the amount of passenger traffic varied from 1,190,853 persons carried between Postchappel-Planen and Dresden, and 28,310 between Wuestenbrand and Luga; and the freight traffic from 2,201,000 tons carried between Zwickau and Cainsdorf, and 13,215 tons between Kottwitzsch and Rochlitz. We have never seen such figures reported before. They serve better than anything else to show just where on a road traffic is heavy and where light.

In the year 1874, on the Austrian railroads, having an extent of 5,950 miles, there were 1,620 accidents which interrupted the working of the roads. Of these, 1,374 happened to running trains, and 146 at stations and to trains not in motion. There resulted from them the destruction or injury of 105 locomotives, 15 tenders, 24 passenger cars, 415 freight cars, in 118 cases damage to road or apparatus, and 985 delays of trains. In these accidents 892 railroad employees were at fault, who were punished by the managements with the consent or at the instance of the Ministry of Commerce and the General Inspection of the Empire. In consequence of these accidents, 230 railroad employees were injured, 180 of them by their own fault or by unavoidable accident, and 50 by defects in the roads and their equipments; also 51 other persons, 47 by their own fault and four by unavoidable accident. Of the former, four went upon the track with suicidal intent. Besides there were killed by these accidents 107 employees and 86 others, 102 of the employees and 82 of the others by their own fault, or pure accident. Of these 82, no less than 31 were suicides.

There is a course of instruction on railroads at the Commercial Academy of Vienna which is said to have an enormous attendance this year of very zealous students, the greater part of whom are of ripe age. There will be severe examinations conducted by superior officers of the railroads and government commissioners. The different railroad administrations have long recognized that pupils of this school had a peculiar fitness for the commercial service of the roads, and for this reason

the railroads pay the Academy a yearly subsidy of about \$3,000, under the express condition that this sum shall be devoted exclusively to instruction in the construction and working of railroads. The ministers of commerce and of finance have approved this expenditure by special decrees.

There have been several accidents recently on Austrian railroads which have indicated that the instruction of the switchmen and their inspection by the station-masters left much to be desired in order to offer efficient protection against the dangers which, under certain circumstances, are incurred in running through switches "against the points." Since experience has shown that the security desirable in this connection can be attained only when running against the points of switches at great speed is avoided as much as possible, the Minister of Commerce has caused a preliminary investigation for the purpose of obviating the evil as far as practicable.

For the purpose of attaining a sharper control in the track service, the General Inspection has resolved to establish perambulating track commissioners along the lines, whose duty would be to give notice to the General Inspection of every thing which occurs out of the way, and if necessary prepare the measures required to remove a flagrant evil.

The longest tunnel in Austria will be that now in construction through the Spitzberg in the Bohemian Forest on the Pilsen, Klattan & Eisenstein Railroad. It will be not less than 6,000 feet long.

The Great Russian Railroad Company will abandon the large rail rolling mill belonging to it in St. Petersburg, as it has not been a financial success and does not promise to be prosperous hereafter. There remain in operation in Russia only two rolling mills and one rail rolling mill. The manufacture of locomotives in Russia is also confined to two works. There are three other works chiefly engaged in erecting locomotives.

The fact that Mr. John G. Stevens invented the "H" rail, though late to come to light, promises to be pretty widely spread in Europe now. Accounts of it in some detail have already appeared in the *Journal of the Austrian Engineers' and Architects' Society*, in the *Journal of the German Railroad Union*, and in another foreign technical journal which we cannot now name.

The railroads of India during the last half of 1874 had in operation on the average 5,629½ miles of road, on which trains ran 7,780,486 miles—an average train mileage of 1,382 per mile of road, equivalent to an average of about 3.8 trains each way daily. The gross receipts were \$2,641 gold per mile, the working expenses \$1,312 (55.78 per cent), and the net earnings \$1,229. The companies have 5 per cent. on their capital guaranteed by the Government. Only two earned enough net to dispense with this guarantee, and the total excess of guaranteed interest over net earnings was \$4,274,144 gold, or \$759 per mile of road for the six months. Thus the average net earnings must increase nearly 60 per cent. in order to equal the guaranteed interest.

For the year 1874, the reports of the railroads of India show that the locomotive expenses per train mile were on the average (5,629 miles of road reporting), 38½ cents gold—say 38 cents currency—of which the cost of fuel amounted to 11¼ cents gold or 13¼ cents currency. The fuel expenses varied on different roads from 4.2 to 26.3 cents currency per train mile. English coal, native coal and native wood are used. Wood good for fuel is scarce. The average price of foreign coal was \$12.22 per ton, gold; of native coal \$2.42 per ton, and of wood \$1.85 also per ton. The road showing the lowest fuel cost per mile (4.3 cents) used native coal costing but \$1.83 per ton.

A New Field for Railroads.

China is at last to have a railroad. As strikingly as if it were a drama played on the stage, the first news of this fact reached Europe on the day of the Darlington jubilee, and the first public announcement of it was made in the closing speech at the banquet there given, and on that night the work of rolling the rails for that railroad was begun at Stockton, the other terminus of the original railroad. The Chairman at this banquet gave all the information that we yet have on this matter, in the following words: "I have received a very extraordinary letter only this morning. It contains these words: 'It may be interesting to you to know that I have to-day signed a contract for the construction of the first Chinese railway. On Monday night the first rails will be rolled at Stockton; and as China contains one-third of the human race, the field for enterprise and the market for iron are opening to redress the present inaction.'"

These words are significant. China is not only a country of great population, but of immense activity and an enormous traffic. The bulk of the interior traffic is now conducted on its great rivers and a vast system of canals; but it has room for and doubtless could afford a profitable traffic to a system of railroads exceeding in mileage that of all Europe, to the great advantage of its own population and the rest of the world. Probably enough this first railroad will be where most of its traffic will come from Europeans, but it may nevertheless serve to demonstrate to the jealous Celestials the advantages of this mode of transportation in the interior of their great country. These will be chiefly in the facilitation of internal transportation; for the exports and imports of China, great as they are, are the merest trifle compared with its internal trade. The country is a vast one, and it has the most varied products, whose interchange is now indispensable to the existence of the population, which could be much better fed and clothed if such interchange were facilitated. Progress, doubtless, will be slow in China, but should railroads once get a foot-hold there and the prejudice against them begin to be broken down, it is quite probable that the greatest field for railroad construction and the profitable investment of capital, and the best market for railroad supplies and railroad skill would be in China for many years. Here,

doubtless, as elsewhere, and even more than elsewhere, those who begin the work will stand the best chance to continue it; and on this account it behooves American projectors, contractors and manufacturers to watch the opening of this new field. Think of the rolling stock and other supplies needed for the supply of a most industrious nation of three hundred millions! We hope that our national representatives in China, and especially our enterprising and influential merchants there, will give this matter their attention. It may be long before anything can be done, but the field is so great that advantage should be taken of the first opening.

The Age of Iron and Axles of Steel.

A short time ago our robust contemporary the *Iron Age* announced that it knew it to be a "fact," that steel car axles were found to be more liable to heat than iron axles, and that the use of the former was for that reason abandoned. As we had never heard of this "fact" before, we quite naturally expressed some surprise, and asked for the evidence. This we think we were perfectly justified in doing, because the fact, if it be one, is very important to railroad managers; and if it is not a fact, then its announcement on the authority of an as influential a paper as the *Iron Age* is a very serious injury to manufacturers of steel axles, as well as misleading to master car-builders and others. We do not intend here to recommend the use either of iron or steel axles, nor to decide which is the cheaper or most advantageous to railroad companies. We only mean to prevent if we can the dissemination of reports which have no sufficient foundation in fact, and which are quite the reverse of true. In our previous article we thought that our interrogations regarding our contemporary's statement of fact would be sufficient to lead it to investigate the ground on which it was based and give the proof, or else say frankly that it found that, on examination, what it supposed was sufficient evidence to support its statement was found not to be so. Instead of that, in noticing our remarks, it says it does not reply to "these articles" because newspaper discussions are "unsatisfactory"! Truth sometimes is.

Now, we do not write for the purpose of drawing a retraction from *The Iron Age*, but to say that there is no evidence to sustain the assertion that steel axles are more liable to heat than iron, but that if there is any difference between the two in this respect it is in favor of steel; and, furthermore, that *The Iron Age* knows that there is no evidence sufficient to sustain its assertion, but don't like to say so.

Record of New Railroad Construction.

This number of the *Railroad Gazette* has information of the laying of track on new railroads as follows:

Lafayette, Muncie & Bloomington.—The track is laid from Muncie, Ind., west to Tipton, 35 miles.

Los Angeles & Independence.—The first track is laid, from Santa Monica, Cal., westward 7 miles.

This is a total of 42 miles of new railroad, making 903 miles completed in the United States in 1875, against 1,180 miles reported for the same period in 1874, 2,897 miles in 1873, and 5,147 in 1872.

THE BRITISH RAILWAY COMMISSION some time ago decided an interesting case in which "unjust discrimination" was charged. The complainant was a dealer in staves and lumber at Burton-on-Trent, where the chief traffic is furnished by the great breweries of that place. The breweries, or most of them, are connected with the railroads by tracks of their own, and their cars are loaded and unloaded on their own ground, by their own workmen, and moved to and from the railroad companies' tracks by their own locomotives. In consideration of this the companies make a rebate of about nine cents per ton for handling the cars, and 18 cents per ton for loading and unloading. The complainant, whose yard was not connected with the railroad, complained that this was an unjust discrimination against him, as it enabled the breweries to supply themselves with staves at less cost than he could get them himself; and claimed that where a company makes a deduction from its charges on account of part of its ordinary work being done by the customer, that deduction ought not to be more than commensurate with the expense saved by the company. The rebates allowed he claimed to be greater than the expense of the services for which they were allowed; and especially he claimed that such goods as he received could be loaded for twopence a ton, while the breweries were allowed ninepence for it. The Commission after taking testimony decided that they could not call the rate of 4½ pence per ton for haulage either too great or too small; but the loading and unloading rebate they decided to be excessive and a discrimination against the business of the timber merchants. The rebate for this item, they decided, should not be more than 4½ pence, and they ordered that if the railroads should continue to make the old rebates on shipments of staves and deal to the brewers, they must reduce their charges by 4½ pence on shipments to the complainant.

FOREIGN BONDHOLDERS seem to be less patient than formerly, and to talk of foreclosure with some freedom. The *German-American Economist*, whose publisher had charge of the Rockford, Rock Island & St. Louis foreclosure, declares itself as follows: "Our maxim with regard to the defaulting American railroad companies is: Bring suit whenever there is anything to be got, and especially when there is a very valuable and profitable property in question; conclude compromises only when there is little or nothing to left secure. The Rockford suit has shown that in the first case the costs of suit are not money thrown away—in other words, that one can obtain his rights in the American courts as well as in any other country whatsoever." And, indeed, this Rockford affair seems to have had a good deal to do with making European bondholders insist more stiffly on their rights. Before, they seemed to suspect that

they would stand a very poor chance in American courts—a suspicion which probably took its rise in some not very ancient history in the city of New York, which has doubtless cost this country several millions of dollars already, and will tax us for many years to come. On this account, the actual foreclosure of several of our companies at the suit of foreign creditors may indirectly help our national credit abroad, and in that way be a public advantage, however much of a calamity it may be to some individuals.

DEAD WEIGHT must necessarily be very great on passenger trains, but not many realize the enormous disproportion of the weight of the vehicles to that of the passengers carried in them.

The average passenger train on the different lines worked by the Louisville & Nashville Railroad Company had, during the year ending with June, 1874, the following tons of paying and dead weight:

	Tons of dead weight.	Tons of paying weight.	Tons of dead weight to one of paying.
Main Stem.....	163.54	6.21	26.33
Knoxville Branch.....	115.12	5.88	20.69
Memphis Line.....	183.19	4.64	39.01
Nashville & Decatur Div.....	126.43	3.19	39.62
Barlow Branch.....	99.80	3.33	30.00
Richmond Branch.....	87.28	1.62	53.88
Glasgow Branch.....	65.33	1.60	38.12

Reports of foreign roads having much lighter cars than ours—less weight per passenger—indicate that they do not do much better: though the cars have more seats per ton of weight, usually they do not run as well filled as ours.

FORECLOSURES OF IOWA RAILROAD MORTGAGES will apparently occupy much of the time of the United States Circuit Court for Iowa at its present session. Applications from the bondholders of no less than five different companies are pending, and are to be brought to trial this term. The roads are the Davenport & St. Paul, the Chicago, Clinton & Dubuque, the Chicago, Dubuque & Minnesota, the Burlington & Southwestern, and the Burlington, Cedar Rapids & Minnesota. In all probability decrees of sale will be granted in each case, and over 850 miles of Iowa road will pass under the auctioneer's hammer before spring.

NEW JERSEY MIDLAND BONDHOLDERS may be interested in knowing that in Philadelphia, October 12, first-mortgage bonds of the South Mountain Railroad Company sold at 35. It will be remembered that the South Mountain & Boston Company offered to deposit \$600,000 of these bonds as security for its performance of the proposed contract for the purchase of the Midland. We believe that the company is not in default, but the low price is probably an indication that Philadelphia capitalists do not regard a projected and partly graded road as the best security in the world for a large issue of bonds.

THE BALTIMORE & OHIO COMPANY, according to the positive statement of one who says "he knows" (but of whose credibility we know nothing), will choose for its President, at the coming election, Mr. Thomas A. Scott. We have not the slightest reason for believing this statement, and if any of our readers do so, it must be at their own risk and peril. We are, however, free to say that the subjection of the Baltimore & Ohio and the Pennsylvania to a single intelligent management might be made a great benefit to both, and to the country also.

THE AMERICAN SOCIETY OF CIVIL ENGINEERS will hold its annual election of officers at its rooms, No. 4 East Twenty-third street, New York, at 10 a. m. November 3. There is talk of choosing a Western man as President, and as Vice-President some one who lives near enough to New York to be able to attend and preside at the regular meetings at the rooms.

General Railroad News.

ELECTIONS AND APPOINTMENTS.

Santa Clara Valley.—The first board of directors is as follows: H. Bartling, R. D. Coldren, E. L. Derby, San Jose, Cal.; John Lowrie, Alameda, Cal.; N. B. Perrin, San Francisco.

Indianapolis, Bloomfield & Evansville.—The first board of directors of this new company consists of J. N. Conley, A. G. Cavins, Wm. Mason, T. D. Huff, E. F. Williams, Henry Irions, James Small, Hughes East and W. W. Curry.

Rumford Falls & Buckfield.—Hon. E. S. Harlow, of Auburn, Me., has been chosen President.

Bingham Canon & Camp Floyd.—At the annual meeting in Salt Lake, Utah, Oct. 5, the following directors were chosen: C. W. Schofield, B. W. Morgan, George Goss, W. B. Welles, George Doane. The board subsequently elected officers as follows: President, C. W. Schofield; Vice-President, George Goss; Secretary, George Doane.

Gulf, Colorado & Santa Fe.—At the annual meeting in Galveston, Tex., Oct. 10, the following directors were chosen: D. T. Ayers, Walter Gresham, B. Hancock, N. N. John, M. Kopper, A. P. Lufkin, Gus. Ronger, Henry Rosenberg, John Sealy, Albert Somerville, James Sorley, R. S. Willis, W. H. Williams.

Cincinnati, Rockport & Southwestern.—At the annual meeting in Princeton, Ind., Oct. 15, the following directors were chosen: George B. Bullock, Rockport, Ind.; Milton N. Moore, Mitchell, Ind.; John A. Mann, Mt. Vernon, Ind.; Clement Doane, Jasper, Ind.; Wm. Hannaman, H. G. Hannaman, Aquilla Jones, W. O. Rockwood, E. H. Sabin, Frank M. Sabin, Francis Smith, Indianapolis; Henry Lewis, Jacob Seasongood, Cincinnati. The board elected Wm. Hannaman, President; E. H. Sabin, Vice-President; H. G. Hannaman, Secretary and Treasurer.

Erie Southern.—The first board of directors is as follows: Wm. S. Brown, Thomas H. Carroll, John R. Cochran, John Clemens, J. F. Downing, Wm. A. Galbraith, John W. Hammond, Joseph Johnston, Jr., Orange Noble, A. B. Ross, Wm. Spencer, Isaac R. Taylor, Asa M. Vorse. Mr. Thomas H. Carroll is President. The company's address is Erie, Pa.

Ohio & Mississippi.—At the annual meeting in Cincinnati, Oct. 14, Daniel Torrance, J. Pierpont Morgan, Robert Garrett, Frank W. Tracey, Theodore G. Meier and Charles L. Beecher were chosen directors in place of D. Torrance, A. N. Christie

and Allan Campbell, term expired, J. D. Prince and F. Schuchardt, resigned and S. U. F. Odell, deceased. Mr. Torrance is the only one re-elected. The Finance Committee for the ensuing year consists of D. Torrance, John King, Jr., J. Pierpont Morgan, Sir A. T. Galt and Robert Garrett. Mr. A. N. Christie presented his resignation as Vice-President and General Superintendent, and Mr. E. H. Waldron, now Superintendent of the Cincinnati, Lafayette & Chicago, was appointed General Superintendent in his place.

St. Louis, Keosauqua & St. Paul.—Mr. W. A. Brownell, of Keokuk, Ia., has been appointed Receiver by the Iowa Circuit Court.

Keokuk & Des Moines.—Mr. L. M. Johnson, Chief Engineer, has been appointed Acting Paymaster.

New Orleans, St. Louis & Chicago.—Mr. F. P. Marsh, of New York, has been appointed General Eastern Passenger Agent.

Bridgeton & Port Norris.—Mr. Ebenezer Westcott, of Bridgeton, N. J., has been appointed Receiver, in place of A. W. Markley, deceased.

Southern Railroad Association.—As previously intimated, Mr. Albert Fink has been appointed General Commissioner, with headquarters at Atlanta, Ga. The Association is extremely fortunate.

Southern, of Long Island.—At the annual meeting in New York, Oct. 19, the following directors were chosen: Stephen T. Arnot, Herman Funke, G. B. Hinsdale, Charles A. Hoyt, D. D. Lord, C. Meyer, Wm. Nicholl, Joseph J. O'Donohue, Adolph Poppenhusen, Alfred L. Poppenhusen, Herman C. Poppenhusen, Henry J. Scudder, E. B. Sutton.

Indianapolis, Bloomington & Western.—Gen. P. Pease has been appointed Master of Transportation, with office in Indianapolis.

North Carolina.—Capt. A. B. Andrews, late Superintendent of the Raleigh & Gaston, has been appointed Superintendent of this road and the Northwestern North Carolina.

PERSONAL.

—Mr. M. Ingle, a well-known citizen of Evansville, Ind., died in that city recently. He was President of the Evansville & Crawfordsville Company from 1857 until 1873, when he resigned on account of failing health.

—Mr. George E. Kilbourne has resigned his position as Paymaster and Purchasing Agent of the Keokuk & Des Moines Railroad, to take effect Nov. 1.

—Mr. Wm. E. Morris, formerly a well-known civil engineer, died at his residence in Philadelphia, Oct. 15, aged 63 years. He was at one time for several years Vice-President of the New York & Harlem Railroad Company and was also for a time President of the Long Island Railroad Company.

—Mr. George Spurck, who died in Peoria, Ill., Oct. 15, was formerly an extensive railroad contractor. He built 25 miles of the old Peoria & Oquawka road, graded 25 miles of the Toledo, Peoria & Warsaw, and did other work. Since 1866, however, he had been engaged in distilling at Peoria.

—The Portland (Me.) *Argus* of Oct. 14 says: "On Saturday morning last, Mr. Oscar Williams, conductor on the Maine Central Railroad, completed 25 years of service in what now comprises this company. Twenty-five years ago Saturday, Mr. Williams went to work for the Portland & Kennebec Railroad, as water boy for a gravel train. He steadily rose until he became conductor."

—Mr. Harwood V. Olyphant, Assistant President of the Delaware & Hudson Canal Company, died in London, England, Oct. 18. He left this country a few weeks since with his family on a visit to Europe. He was a son of the late Robert M. Olyphant, for many years a director of the company.

—Capt. A. B. Andrews, for eight years past Superintendent of the Raleigh & Gaston and the Raleigh & Augusta Air Line railroads, has resigned to take charge of the North Carolina road.

TRAFFIC AND EARNINGS.

Freight Rates from Chicago to the Southwest.

At a conference in Chicago, Oct. 14, at which representatives of the Chicago, Burlington & Quincy, the Chicago, Rock Island & Pacific, the Chicago & Alton, the Chicago & Northwestern, the Illinois Central, the Hannibal & St. Joseph and the St. Louis, Kansas City & Northern were present, the following tariff per 100 pounds was agreed upon:

	1st class.	2d class.	3d class.	4th class.	Spec'l.
Chicago to Missouri River points.....	80 cts.	60 cts.	45 cts.	35 cts.	30 cts.
St. Louis to Missouri River points.....	60 "	45 "	35 "	30 "	25 "

These rates will take effect immediately.

Flour and Grain Movement.

The receipts and shipments for the week ending Oct. 9 are as follows, flour in barrels and grain in bushels:

	1875.	1874.	Inc. or Dec.	P. c.
Flour:				
Lake ports' receipts.....	137,284	148,302	Dec. 21,018	14.2
" shipments.....	145,620	119,967	Inc. 25,653	22.8
Atlantic ports' receipts.....	251,199	249,597	Inc. 1,602	0.6

	1875.	1874.	Inc. or Dec.	P. c.
Wheat:				
Lake ports' receipts.....	2,028,768	2,681,763	Dec. 652,995	24.3
" shipments.....	1,999,384	2,704,792	Dec. 705,408	26.1
Atlantic ports' receipts.....	1,007,068	1,261,441	Dec. 254,373	20.2

	1875.	1874.	Inc. or Dec.	P. c.
Grain of all kinds:				
Lake ports' receipts.....	4,977,892	4,555,242	Inc. 422,650	9.2
" shipments.....	4,347,296	4,347,296	Inc. 0	0
Atlantic ports' receipts.....	3,179,589	2,864,200	Dec. 315,389	11.0

Of the grain shipments from lake ports, 31.3 per cent. went by rail this year, 9.8 per cent. in 1874, and 17.3 per cent. in 1873. San Francisco wheat exports for September were 19 cargoes, containing 1,850,000 bushels, all to Great Britain, and a decrease of 14.7 per cent. from September, 1874. Flour exports were 13,900 barrels, of which 9,200 went to China, 2,100 to Panama and Central America, 1,600 to the Pacific islands, 700 to Japan and 300 to other ports. As compared with September, 1874, there was a decrease of 39.8 per cent. For the three months of the California crop year ending Sept. 30 the exports were as follows, flour being reduced to wheat in the totals:

	1875-76.	1874-75.	Inc. or Dec.	P. c.
Flour, barrels.....	94,900	83,800	Inc. 12,100	14.6
Wheat, bushels.....	3,348,500	3,100,254	Inc. 248,256	8.0

	1875-76.	1874-75.	Inc. or Dec.	P. c.
Total, bushels.....	3,775,580	3,472,834	Inc. 302,746	8.7

September shipments were somewhat decreased by the financial troubles in San Francisco and the difficulty of selling exchange.

Chicago grain receipts and shipments for the week ending Oct. 16 were, in bushels:

	1875.	1874.	Inc. or Dec.	P. c.
Receipts.....	2,032,632	1,905,782	Inc. 126,850	6.7
Shipments.....	1,692,151	1,953,085	Dec. 300,934	15.4

Railroad Traffic.

The shipments of through freight eastward over the Central Pacific for September were: San Francisco, 5,432 tons; interior points, 928 tons; total, 6,360 tons or 636 car-loads; an average of 21 car-loads per day. The leading items of freight were:

wool, 1,875 tons; tea, 1,505 tons; salmon, 761 tons; ripe fruit, 568 tons.

During the month of September 32,709 freight cars were moved over the Middle Division of the Philadelphia & Erie Railroad, an increase of 2,811 cars, or 9.4 per cent., over the same month in 1874.

During the nine months ending Sept. 30, there were received at and forwarded from Indianapolis by the various lines entering that city, 398,040 freight cars. The largest number, 54,668, was in September; the smallest, 35,020, in August.

The tonnage of freight passing over the Utah Central and Southern roads for September was as follows:

	1875.	1874.	Decrease.	P. c.
Utah Central, tons.....	10,351	13,085	2,734	20.9
Utah Southern, tons.....	6,248	9,903	3,655	58.6
Total.....	16,599	22,988	6,389	27.8

On the Central the leading item of freight was 3,852 tons of coal and coke; on the Southern it was 2,583 tons of ore and bullion.

Coal Movement.

Coal tonnages reported for the week ending Oct. 9 were as follows:

	1875.	1874.	Inc. or Dec.	P. c.
Anthracite.....	531,360	493,563	Inc. 37,797	7.6
Semi-bituminous, Broad Top and Clearfield.....	38,043	.....	.....	.....
Cumberland.....	64,153	.....	.....	.....
Bituminous, Barclay.....	7,632	.....	.....	.....
" Western Pa.....	66,027	.....	.....	.....
" West Virginia.....	6,211	.....	.....	.....
Coke, Western Pennsylvania.....	33,222	.....	.....	.....

The partial cessation of shipments agreed upon by some of the anthracite companies accounts for the diminished increase in tonnage.

The tonnage of coke reported for the nine months ending Sept. 30 was as follows:

	Tons.
Tyrene & Clearfield.....	273
Allegheny Region, Pennsylvania R. R.....	68
Pittsburgh Region, ".....	79,542
Penn and Westmoreland regions.....	25,798
Connellsville Region, Southwest Pennsylvania R. R.....	407,785
West Pennsylvania R. R.....	38,195
Total.....	551,646

The Southwest Pennsylvania reports 73.9 per cent. of the whole. The coal tonnage of the Pennsylvania Railroad for the last nine days of September was as follows:

	Tons.
Anthracite.....	30,701
Bituminous.....	97,297
Coke.....	33,226
Total.....	161,224

Which is 16,124 car-loads, about 403 trains, an average of nearly 45 trains per day.

The total tonnage of coal passing through the Chesapeake & Ohio Canal for September was: 1875, 115,129 tons; 1874, 100,635 tons; increase, 14,494 tons, or 14.4 per cent.

Railroad Earnings.

Earnings have been reported as follows for the periods given belows:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Central of Georgia.....	\$2,886,537	\$3,095,886	Dec. \$209,349	6.8
Expenses.....	1,086,805	2,068,952	Dec. 982,147	19.3
Net earnings.....	\$1,199,932	\$1,026,934	Inc. \$172,998	18.9
Earnings per mile.....	4,074	4,370	Dec. 296	6.8
Per cent. of exp'n's.....	67.81	67.41	Dec. 0.40	14.2

Nine months ending September 30:

	1875.	1874.	Inc. or Dec.	P. c.
Central Pacific.....	\$12,480,183	\$10,305,199	Inc. \$2,174,984	21.1
Cin., Lafayette & Chi.....	289,218	329,063	Dec. 39,845	11.8
Illinois Central.....	5,459,207	5,661,814	Dec. 202,607	3.6
Int. & Great Northern.....	821,097	823,183	Dec. 2,086	0.3
Kansas Pacific.....	2,356,223	2,405,183	Dec. 49,960	2.0
Keokuk & Des Moines.....	612,312	500,769	Inc. 111,543	22.3
Midland, of Canada.....	217,926	232,801	Dec. 14,875	6.8
Missouri, Kan. & Tex.....	2,024,843	2,299,037	Dec. 274,194	11.9
St. L., Alt. & T. H.....	401,692	393,804	Inc. 7,888	2.0
Belleville Line.....	2,488,694	2,199,204	Inc. 289,490	13.3
St. Louis, Iron Mt. & Southern.....	1,880,843	1,975,778	Inc. 94,935	5.1
St. Louis, Kan. City & Northern.....	922,833	826,337	Inc. 96,496	11.9
Toledo, Peoria & War.....	8,662,427	7,520,184	Inc. 1,142,243	15.3
Union Pacific.....	1875.	1874.		
Month of August:				
Louisville, Cin. & Lex.....	\$93,892	.....	.....	.....
Expenses.....	71,294	.....	.....	.....
Net earnings.....	\$22,598	.....	.....	.....
Per cent. of expenses.....	75.8	.....	.....	.....
Michigan Central.....	527,744	.....	.....	.....
Expenses.....	378,967	.....	.....	.....
Net earnings.....	\$148,777	.....	.....	.....
Per cent. of expenses.....	71.8	.....	.....	.....
Mobile & Ohio.....	112,873	\$116,689	Dec. \$3,816	3.3
Expenses.....	114,791	133,200	Dec. 18,409	16.3
Deficit.....	\$1,918	\$16,381	Dec. \$14,463	88.5
Per cent. of expenses.....	101.70	114.04	Dec. 12.34	10.8

Month of September:

	1875.	1874.	Inc. or Dec.	P. c.
Cairo & St. Louis.....	\$29,886	.....	.....	.....
Central Pacific.....	1,661,000	\$1,371,739	Inc. \$289,261	19.8
Cin., Lafayette & Chi.....	39,103	40,105	Dec. 1,002	2.5
Chesapeake & Ohio Canal.....	67,677	63,379	Inc. 4,298	6.8
Expenses.....	22,292	17,776	Inc. 4,516	25.4
Net earnings.....	\$45,385	\$45,603	Dec. 218	0.5
Illinois Central.....	737,834	758,536	Dec. 20,702	2.7
Int. & Great Northern.....	86,501	105,945	Dec. 19,444	16.5
Kansas Pacific.....	318,111	302,318	Inc. 15,793	5.2
Keokuk & Des Moines.....	80,539	68,465	Inc. 12,074	17.6
Lake Shore & Mich.....	1,262,700	1,532,602	Dec. 269,902	17.6
Mo., Kansas & Texas.....	299,998	334,496	Dec. 34,498	10.3
Rockford, B. I. & St. Louis.....	55,845	.....	.....	.....
Expenses.....	43,312	.....	.....	.....
Net earnings.....	\$12,533	.....	.....	.....
Per cent. of expenses.....	77.66	.....	.....	.....
St. Louis, Alton & Terre Haute-Bellefonte Line.....	48,543	55,282	Dec. 6,739	13.2
St. Louis, Iron Mt. & S.....	342,800	292,216	Inc. 50,584	17.3
Northern.....	246,624	249,738	Dec. 3,100	1.3
Toledo, Peoria & War.....	136,554	107,338	Inc. 29,204	27.2
Union Pacific.....	1,042,000	1,063,993	Dec. 21,993	2.1

The earnings of the Pennsylvania Railroad and Branches, including the New Jersey lines, have been published in the London papers for the eight months ending Aug. 31, as follows:

	1875.	1874.	
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baskets of an estimated weight of 66,048 tons. The season is now finally closed.

THE SCRAP HEAP.

Drilled Rivet Holes.

In a paper on high-pressure steam engines, read at the late meeting of the British Iron and Steel Institute, in Manchester, the author, Mr. Daniel Adamson, F. G. S., said:

"Could the whole boiler manufacture of this country be lifted up to a high dependable class of pure engineering work by supplanting the rude, barbarous method of punching rivet holes, and all its irregularities, by the use of the drill, whereby true, parallel rivet holes can be secured, cylindrical and exactly at right angles to the plates, or in true radial lines, as the case may be, boilers being thus made by engineers of recognized skill and care, 100 to 150 lbs steam pressure may be most safely used, and with less risk than the present system admits of carrying 50 lbs. per square inch on stationary boilers. Carrying this into all our practice, using the multiple system of steam engine with all the refinements of superheating in the lower range of pressures between cylinders, nursing the heat of steam as it passes on from cylinder to cylinder with every possible care, under such conditions there could be no doubt that the manufacturer and user of steam power in this country would get his work performed by 1 to 1½ lbs. coal per horse per hour at most."

Prizes to Enginemen.

The Fort Wayne (Ind.) *Sentinel* of Sept. 22 says: "We are indebted to Thos. Meegan, Esq., for the following statement of the premiums awarded to locomotive engineers on the Western Division of the Pittsburgh, Fort Wayne & Chicago Railroad for the month of August, 1875: Through passenger engine 217, C. Gablenz, engineer; B. F. Campbell, fireman. Local passenger engine 121, O. Smith, engineer; L. Richey, fireman. Standard freight, 1st premium, engine 180, D. McCarthy, engineer; M. Loughlin, fireman. Standard freight, 2d premium, engine 111, A. Koons, engineer; T. Hogarth, fireman. Other engines, rated as one class engine 175, B. C. Skinner, engineer; P. Runcey, fireman."

A Rapid Transit Experiment.

Gen. Roy Stone proposes to put on exhibition in New York a section of his elevated railroad, now at Phoenixville, Pa., and which was described in the *Railroad Gazette* of Oct. 9. Application has been made to the Park Commissioners for authority to erect it in the City Hall Park, where it can be seen conveniently by almost every one who is interested in the question of rapid transit, and Gen. Stone expects a favorable answer.

Cattle Alarm for Locomotives.

Mr. E. Smith, of Bloomington, Ill., has patented a device which is thus described: "It consists of a telescopic arrangement of tubes and a valve so arranged that when one tube is pushed within the other the valve is opened and steam admitted from the boiler whereby projectiles are thrown from the tube to drive cattle from the track." We would suggest as an improvement to this that a projecting spar be attached to the front of the locomotive with a torpedo at the end, which might be exploded under the beast by means of electricity in order to accelerate its movements. No patent applied for for this improvement.

OLD AND NEW ROADS.

Northern Pacific.

A notice, dated Oct. 6, says that bonds of the company will, until further notice, be received in payment at par for lands in Minnesota and Dakota belonging to the company. Receipts of the Farmers' Loan and Trust Company of New York for surrendered bonds will be accepted in exchange for such lands, at the par of the preferred stock to which the holders are entitled. The current market price of these securities brings the cost of good lands to less than one dollar per acre.

All inquiries respecting lands should be addressed to James B. Power, Esq., General Agent, Brainerd, Minnesota. Information can be obtained at this company's offices in New York or St. Paul, and at the office of C. D. Barney & Co., No. 114 South Third street, Philadelphia, or at the office of George William Ballou, No. 72 Devonshire street, Boston.

The Trust Company's receipts offered in payment for lands must be first indorsed, with a certificate of the amount of preferred stock to which the holder is entitled, by the treasurer of this company, at No. 23 Fifth avenue, New York, to whom the receipts may be presented, or mailed, for that purpose.

The Brotherhood of Locomotive Engineers.

The twelfth annual convention commenced its session at Irving Hall, New York, Oct. 20. Addresses of welcome to the delegates were made and were responded to by First Grand Engineer Ingraham. Grand Chief Engineer Arthur then read his annual address, which opened by calling upon those present to offer their thanks to God for the protection he had bestowed upon the Brotherhood. Notwithstanding the many disadvantages they had labored under during the last year the membership of the Brotherhood had steadily increased, and six new chapters have been granted. Moberly Division No. 86 and Knoxville Division No. 115, which were disorganized and scattered two years ago, have been reorganized and were in a flourishing condition.

At the present time there are 189 divisions. During the last year he said there had been a strong desire manifested by some railroad managers to reduce the wages of the engineers, and the public might infer that the engineers were arbitrary and unjust in their demands because they were organized; but such was not the case. The engineers had always evinced a liberal spirit toward their employers. Still they did not think it right that they should be called upon to make good losses sustained by railroad companies engaging in wild speculations and combinations, and they thought that the system of paying engineers by the trips caused a sufficient reduction in wages.

The engineers, he said, have suffered as much in proportion, on account of the general depression of business, as any other class of men who are dependent on their daily wages.

Other addresses were then made, an invitation to attend the Twenty-third street Baptist church on Sunday accepted, and a recess was taken.

After the recess, the business session was begun and was, as usual, held with closed doors. There is a large attendance of delegates from the various divisions.

Rome, Watertown & Ogdensburg.

The bridge over the Genesee River at Charlotte, N. Y., on the Lake Ontario Division, has been completed and accepted by the company. Trains began to run over it Oct. 17. A temporary platform has been put up at the crossing of the New York Central & Hudson River's Charlotte Branch, where transfers will be made until the new depot, now under construction, is finished.

The bridge consists of a double-track draw-span 310 feet long, and 1,000 feet in length of wrought-iron viaduct, part of which is 60 feet high. It was built by the Delaware Bridge Company, Charles Macdonald, Engineer.

Pacific Mail.

The directors have ratified the sale of the Yokohama & Shanghai line, including four of the old wooden side-wheel steamers (the Costa Rica, Oregonian, Golden Age and Nevada)

to the Miltza-Bitshe Company, of Japan. This company receives a subsidy from the Japan Government and represents it in opposition to the Pacific Mail. The latter, it is said, lost nearly \$200,000 on this line last year. The price obtained for the steamers was \$700,000 Mexican silver, equivalent in our currency to nearly \$800,000. The sale furnishes the Pacific Mail Company with the means to pay all its obligations except the loan of the Panama Railroad. The Miltza-Bitshe Company offers to run the steamers bought so as to connect with the main line of the Pacific Mail.

Paris & Dauville.

The tracklayers have begun work on the extension from Robinson, Ill., south to Lawrenceville, which is to complete the road.

Albany & Susquehanna.

The third or six-foot gauge rail is now being taken up between Albany and Oneonta, which will confine the double gauge to the section from Oneonta to Binghamton.

Indianapolis & St. Louis.

The Indianapolis *Journal* of Oct. 14 says: "The Indianapolis & St. Louis and the Vandalia railroad companies have effected an arrangement for again pooling the earnings of the two roads, commencing with to-day. A General Manager is to be appointed whose duty will be to see that there is no clashing of interests and that profitable rates are maintained."

There are also reports of a union of the two lines under one management and a practical consolidation. The Pennsylvania from the beginning has had a controlling interest in the Vandalia line, and since its lease of the Fort Wayne road a half interest also in the Indianapolis & St. Louis.

Portland, Saco & Portsmouth.

At a meeting of the board last week it was voted to call a meeting of the stockholders at an early day, for the purpose of considering the relations of the road to the Eastern. The directors also voted to recommend that the stockholders reduce the rental paid by the Eastern from 10 per cent. to 6 per cent. per annum.

Laurens.

The work of rebuilding this long abandoned road has been completed, from the junction with the Greenville & Columbia, at Helena, S. C., to Martin's Depot, 15 miles. There remains about 17 miles between Martin's and Laurensville. The road is not yet opened for business.

The Missouri Railroad Commission.

The annual inspection of the railroads of the State as required by law has been begun. The Secretary of the Commission, Maj. George C. Pratt, who is said to be a competent engineer, will go over all the roads, accompanied at all times by one or more of the commissioners. The examination is intended to be a thorough one.

The Commission has issued a circular to railroad companies calling their attention to the necessity of keeping the right of way cleared of dead grass, weeds and other combustible material in which sparks from the engines may lodge, and which may serve to spread fire to adjacent fields or wood-lands. Farmers are also advised to co-operate in this work.

Brownsville & Redstone.

This is the name of the recently-formed company which purposes building a railroad from Brownsville, Pa., through the valley of Redstone Creek to the Southwest Pennsylvania road near Uniontown. A large amount of the stock has been already subscribed, and 10 per cent. called in, and it is supposed to begin work at once.

Little Rock & Fort Smith.

In Boston, Oct. 13, this company offered for sale at public auction \$1,500,000 of its new 7 per cent. currency first-mortgage bonds, the first coupon on which is payable July 1, 1876. These bonds are the first of an issue of \$3,000,000, and are the only lien on the road and land grant, all previous liens having been extinguished by the foreclosure. The terms of sale were 15 per cent. payable Nov. 1, 15 per cent. on the first day of each of the succeeding five months, and the remaining 10 per cent. May 1, 1876. No bid less than 50 was to be received.

The bonds were all sold at the minimum price, 50 cents on the dollar. The proceeds are to be used to build the 26 miles of road required to complete the road to Fort Smith and secure the land grant.

Peoria & Springfield.

The Receiver, Mr. James Haines, reports to the Court that when he took possession of the road he found that the lessee, the Indianapolis, Bloomington & Western Company, had allowed it to fall into a very bad condition. In order to fit it for the passage of the heavy trains of the road and the Toledo, Wabash & Western, and to provide the necessary sidings, almost a complete reconstruction of the road was required. He was obliged to hire engines, as the contracts made by order of the Court required him to do all the switching at Peoria, and also to haul all the Toledo, Wabash & Western cars between Peoria and Peoria, and to do the local business.

The operations from June 1 to Aug. 31, three months, were as follows:

Earnings of road, etc.	\$25,236 32
Temporary loans	7,000 00
Total	\$32,236 32
Working expenses	\$19,059 88
Repairs authorized by Court	15,066 85
	34,566 73

Deficit.....\$2,390 41

The earnings from local business were \$2,118.62, with only an old caboose for equipment. There were hauled over the road in four months up to Sept. 30, 13,146 cars. The net earnings of the road were \$5,376.44, besides \$800 still uncollected.

Central, of Iowa.

A circular from the joint committee says that the compromise agreement of reorganization has received the approval of holders of \$2,360,000 first and \$716,000 second-mortgage bonds.

The business of the first eight months of 1875 shows an increase of 20 per cent. over 1874. The employees have been paid up, or so nearly so as to remove all embarrassment from that quarter.

A Des Moines (Ia.) dispatch says that in the United States Circuit Court, Oct. 17, a hearing was had in the suit of the Farmers' Loan & Trust Company, trustee, for a foreclosure of mortgage. The trustee represents a minority of the bondholders, the majority being represented by the joint committee, which opposes the foreclosure and desires a reorganization of the company and that the management of the road be placed in the committee for six years. The court refused to grant the petitions of the committee, and will probably grant the trustee's application for a decree of foreclosure and sale.

Wisconsin Central.

The Milwaukee *Sentinel* says that the contract for the extension from Stevens Point south to Portage City has been let, and the work is to be carried forward with such directness of purpose that about 80 miles of the distance of 70 miles between the points named will be completed on or about the 1st of next January. Col. Bausenwein has gone to complete the survey, and ground has been broken at Stevens Point by the contractors, Messrs. David Fitch and Charles Dillhoff, of that place.

The counties of Portage, Waushara, Marquette and Columbia, which will be interested by the extension, have voted \$75,000 in aid of the enterprise, and will be materially benefited by it. The country between Stevens Point and Portage City is level, and presents no obstacles that will require time to overcome. At Portage City the Central Railroad will connect with the line of the St. Paul Railroad and with that of the Madison & Portage. The company hopes also to be able to resume work soon on the gap between Worcester and Penokee Range on the main line.

Rumford Falls & Buckfield.

The incorporators have accepted the charter granted by the Maine Legislature and have organized a company. The road is to run from Auburn, Me., north by east through Buckfield to Rumford Falls. It is proposed to use part of the Portland & Oxford Central.

Indianapolis, Bloomfield & Evansville.

This company has filed articles of incorporation in Indiana and purposes building a narrow-gauge road from Indianapolis south by east to Evansville a distance of about 150 miles. The capital stock is to be \$500,000.

Cairo & St. Louis.

The levee above Cairo, on which the road runs, has been so badly washed by the Mississippi as to make the road unsafe. All the equipment has been moved north of the dangerous section, and trains have, for the present, ceased to run into Cairo. There is some controversy as to who is liable for the repairs of the levee, which prevents any immediate action.

St. Louis & Southeastern.

The agents of the European bondholders, Wertheim & Gompertz and J. W. Osweil, of Amsterdam, say in an address to the bondholders, that "after the company, in spite of repeated pressing urging in New York, took much more time than seemed to us necessary in order to prepare propositions to the bondholders, we cannot refrain from saying that on receiving them we felt greatly disappointed at the vagueness as well as the inadequacy of their propositions." They find them entirely unacceptable for holders of bonds secured on the Illinois and Indiana lines. They say:

"The company offers as a maximum for a period of 6½ years to pay in cash \$227.50 per \$1,000, equal to half of the accruing interest, from May 1, 1874 to Nov. 1, 1880, in case it shall be in position to earn this amount; but should this not be the case, however, then the bondholders must wait longer. This proposition of itself is already very disadvantageous to the holders of first-mortgage bonds of the Illinois and Indiana divisions, because already, in very bad times, enough is earned to meet the above payments, and it is further wholly unacceptable because it is coupled with the requirement that the bondholders shall convert the unpaid half of their coupons for 6½ years, or \$227.50 per \$1,000 bond, into a kind of debenture of very doubtful value, even in the distant future. This is a treatment of the rights and demands of the first-mortgage bondholders which cannot be suffered: the chances of a better future belong first to them."

They have already notified their American agents officially that they do not find the propositions made by the company to accord with right and equity, and they shall proceed to a judicial foreclosure and sale of the mortgaged property in case the company does not shortly propose something more acceptable. To show that the propositions were too favorable to the Kentucky and Tennessee sections, they submit the Receiver's report of receipts and expenses for the eight months ending with June last, as follows:

	Gross receipts.	Working expenses.	Net earnings.	Deficit.
St. Louis Division.....	\$413,111 03	\$314,226 34	\$98,884 69	.....
Kentucky Division.....	187,919 89	187,854 88	65 03	.....
Tennessee Division.....	83,621 74	90,670 40	.....	\$6,948 66

In accordance with their expressed desire, the Receiver has kept separately the receipts and expenses of St. Louis Division (in Indiana and Illinois) from those of the Kentucky and Tennessee divisions. They explain that the competition for Nashville business had reduced earnings. They close by saying that in their opinion a foreclosure and reorganization will be unavoidable.

Vermont Central.

The \$700,000 equipment bonds issued by the trustees in 1865 become due Nov. 1. The Chancery Court some time ago made an order authorizing the exchange of these bonds at par for those of the \$2,500,000 income and extension bonds of 1872, a sufficient amount of the latter being reserved to make the exchange. Notice is now given by the Treasurer of the Central Vermont Company that the bonds can be exchanged at the Boston Safe Deposit & Trust Company's office in Boston, where the new bonds have been deposited.

Chicago & Michigan Lake Shore.

The Lansing (Mich.) *Republican* says: "The railroad bridge at St. Joseph is to be taken up, and a new one built above the Benton Harbor canal, making the depot on the opposite side of the town from where it now is. Seven miles of new track will have to be laid between the harbor and Lincoln. The survey has already commenced."

Several efforts have heretofore been made to have this bridge removed, on account of the obstruction to navigation.

Atchison Bridge.

The trains of the Kansas City, St. Joseph & Council Bluffs, the Chicago, Burlington & Quincy, the Chicago, Rock Island & Pacific and the Hannibal & St. Joseph roads were to begin crossing the bridge at Atchison, Oct. 18. The Central Branch depot will be used for the present as a union depot.

Rockford, Rock Island & St. Louis.

Articles of incorporation have been agreed upon for the company which purposes taking this road from the bondholders and running it in the interest of a local combination. The plan proposed is the organization of a new company with a capital of \$3,000,000, of which 10 per cent. will be payable at once, 5 per cent. March 1; 5 per cent. July 1; 5 per cent. Nov. 1, 1876, and thereafter 5 per cent. semi-annually until May, 1884. The organization will be completed as soon as the subscriptions are all in. It is said that over \$1,000,000 has been promised already. The parties mentioned as most prominent in the new company are Lorenzo Schriker, of Davenport, Captain Robinson, of Rock Island, and the Deeres (great plow manufacturers) of Moine. Mr. Osterberg has been in consultation with the parties interested and is said to approve the plan, which indeed was made before his last visit to Germany.

The Southern Railroad Association.

A general meeting of the new association was held in Atlanta, Ga., Oct. 13, representatives of all the companies which, have thus far joined being present. The proceedings were not public, but it is understood that the appointment of Mr. Albert Fink as General Commissioner was ratified and the duties of that office defined. The agreement upon the subject of pooling freights was ratified, providing for a system of division of business at competing points, the details to be settled by the lines directly concerned in each case.

The companies subscribing to the agreement are the Western & Atlantic, the Central of Georgia with its leased lines, the Ocean Steamship Company, of Savannah, the Savannah, Grinn & North Alabama, the Mobile & Girard, the Philadelphia & Southern Mail Steamship Company, the Georgia, the Atlanta & West Point, the South Carolina, the New York & Charleston

Steamship Line, the Richmond & Danville with its leased lines, the Atlanta & Richmond Air Line, the Memphis & Charleston, the East Tennessee, Virginia & Georgia, the Western of Alabama, the Wilmington, Columbia & Augusta, the Wilmington & Weldon, the Charlotte, Columbia & Augusta, the South & North Alabama, the Nashville, Chattanooga & St. Louis and the Baltimore & Savannah Steamship Company. The only roads of importance in the Carolinas, Georgia and Alabama not included are the Atlantic & Gulf, the Mobile & Montgomery, the Alabama & Chattanooga and the Selma, Rome & Dalton.

Lake Superior & Mississippi.

The Supreme Court of Minnesota, after a rehearing of the arguments in the case and after careful consideration, has reversed its former decision, and now holds that the charter of this company is constitutional and valid. The point upon which the former decision was based was that the act of 1861, while nominally only an amendment to the act of the Territorial Legislature of 1857 chartering the Nebraska and Lake Superior Company, did in fact create a new corporation, and therefore came within the provision of the State constitution prohibiting the creation of corporations by special act. The Court now holds that while the Legislature undoubtedly went as far in the act of 1861 as it could, yet that act must be held to be an amendment to the charter of 1857, and as such amendment it is valid. As to the further objection that the amended charter was a breach of the contract with the original corporations, it is held that none of the a has ever made any objections to it, and there is nothing to show that they did not give their consent.

Dividends.

Dividends have been declared by the following companies: Baltimore & Ohio, Main Stem, 5 per cent., semi-annual, payable Nov. 1.

New York, Providence & Boston, 2½ per cent., quarterly, payable Oct. 19.

Nashville, Chattanooga & St. Louis, 1½ per cent., semi-annual, payable Oct. 11.

New Mail Routes.

Extensions of mail service have been ordered over the following lines:

Southern Pacific, Los Angeles Division, from San Fernando, Cal., to San Bernardino, 81 miles; Anaheim Branch, from Los Angeles to Anaheim, 21 miles, both to begin Oct. 16.

New Jersey & New York, from Nanuet Junction, N. Y., to Stony Point, 14 miles, to begin Nov. 1.

Meetings.

The following companies will hold their annual meetings at the times and places given:

Cayuga, at the Treasurer's office, No. 76 Wall street, New York, Nov. 4, at 12 noon.

Hannibal & St. Joseph, at the company's office in Hannibal, Mo., Nov. 1, at 10 a. m.

Baltimore & Ohio, at the company's office, Camden Station, Baltimore, Nov. 15, at 10 a. m. Transfer books will be closed Nov. 6 and reopened Nov. 16.

The American Society of Civil Engineers will hold its annual meeting to consider the report of the board of direction and choose officers for the ensuing year, at the rooms No. 4 East Twenty-third street, New York, Nov. 3, at 10 a. m.

A special meeting of the stockholders of the Portland, Saco & Portsmouth Company will be held in Kittery, Me., Nov. 3, to consider whether the corporation will consent to a reduction of the rent received for its road.

Baltimore & Ohio.

The usual semi-annual dividend of 5 per cent. on the stock of the Main Stem has been declared, but nothing has been said about that on the Washington Branch stock, which has always been made at the same time with the Main Stem. It is said that the Washington Branch dividend will be passed, on account of the large amount, nearly \$400,000, which will have to be paid to the State of Maryland as arrears of tax on the passenger receipts of the Branch, under the recent decision of the United States Supreme Court.

Montclair.

Notice is given that a meeting of the bondholders, for whose account the road was bought at the foreclosure sale by the trustees, will be held at the office of Parker & Keasby, No. 750 Broad street, Newark, N. J., Oct. 25, at 3 p. m., for the purpose of forming a permanent organization by the election of a president and six directors, and also to adopt a corporate name and seal.

Wyandotte, Kansas City & Northwestern.

The company has secured the right of way for the extension of its 3-foot road eastward from Independence, and work is to be begun at once between Lexington, Mo., and Napoleon.

Valley, of Virginia.

This company has agreed upon a basis of settlement with the contractors, who are to receive the notes of the company at 12 and 18 months, endorsed by the Baltimore & Ohio. That company will take as collateral the county bonds now held by the Valley company. All the contractors have accepted except McMahon & Green, who claim payment for \$21,000 more than the estimate of the company's engineer, and who will probably sue the matter out. The county board of Rockbridge County has agreed to have the injunction dissolved which prohibits the company from disposing of \$189,000 county bonds already issued to it, on condition that they are used solely for the purpose of settling with the contractors, and that the \$210,000 of bonds not yet issued are not called for until work is resumed.

New Orleans Pacific.

The parish of Natchitoches, La., has contributed a parish subscription of \$100,000, besides individual subscriptions of \$25,000, to the stock. Meetings in aid of the road continue to be held in New Orleans and all along the line of the road. The force at work on the grading above Alexandria is being gradually increased.

Rockford, Rock Island & St. Louis.

Receiver Ferry reports to the Court for September as follows:

Balance on hand Sept. 1.....\$26,528 16

Cash received during month.....35,783 69

For prior business.....61 11

Total.....\$62,372 96

August pay-rolls.....\$26,788 30

Receiver's salary.....2,266 40

Rentals.....2,632 63

Other expenses.....11,625 14

Balance, Sept. 30.....\$39,060 49

The receipts were at the rate of \$191 per mile, and the expenses were 77.56 per cent. of receipts.

Portland & Ogdensburg.

A contract has been concluded with James Hogan & Co., of Ashland, Mass., for the completion of the 40 miles of the Vermont Division from Johnson to Swanton. Work will be begun at once, with the expectation of completing the road by July of next year.

St. Louis, Keosauqua & St. Paul.

The case of Kittle & Co. against this company came up in the Iowa Circuit Court at Bloomfield, Ia., last week. Before the arguments were had, however, a basis of compromise was

agreed upon. Under this arrangement Mr. W. A. Brownell, of Keokuk, was appointed Receiver, and he will work the road, under the direction of the Court, for the benefit of all parties concerned. There is only four miles completed, from Keosauqua, Ia., to the Keokuk and Des Moines at Summit.

Louisville, Harrod's Creek & Westport.

This company purposes extending its present local road north-east to Madison, Ind., and eventually to Cincinnati, and is now trying to secure subscriptions in Madison and along the line of the road. It has now five miles of 3-foot road.

Springfield, Decatur & Indianapolis.

The contract for the extension of this road (formerly the Indiana & Illinois Central) from Montezuma, Ind., to Rockville, 10 miles, has been let to Hill, Dolby & Co., of Syracuse, N. Y., who will begin work at once. At Rockville connection will be made with the Logansport, Crawfordsville & Southwestern.

Erie.

Receiver Jewett's statement for July and August shows receipts amounting to \$4,943,731.99, and disbursements of \$4,569,139.56, leaving a balance on hand Aug. 31 of \$373,592.43. The receipts include \$833,153.79, and the disbursements \$393,717.64 on account of loans, interest and other items outside of the usual accounts. A general statement from May 27 to Aug. 31 is as follows:

Cash balance May 20.....	\$147,593 44
Received from accounts then due.....	1,002,622 50
Earned and collected since.....	5,210,905 82
Cash from receiver's certificates.....	\$991,539 40
Less paid.....	320,000 00
Cash borrowed from Bank of Commerce.....	671,539 40
	150,000 00
Total.....	\$7,181,760 96

Payments on accounts due prior to May 27, \$4,389,736 85

On accounts due since.....3,428,441 88

6,808,168 63

Balance, Aug. 31.....\$373,592 43

A condensed statement of ledger balances is also given. The following is the statement of notes and receiver's certificates:

Issued as by report of June 30.....\$636,539 40

Note, Bank of Commerce.....150,000 00

Issued to sundry parties since June 30.....355,000 00

Total.....\$1,141,539 40

Certificates paid to Union Steamboat Company...\$20,000

Marine Bank.....300,000

320,000 00

Amount outstanding Sept. 1.....\$821,539 40

A telegram from London says that Mr. John Morris, counsel for the bondholders, who accompanied Sir Edward Watkin to this country, has made a report which indicates the necessity of further sacrifices. Mr. Morris repeats most of the recommendations made by Sir Edward Watkin, but adds some information as to the difficulty of a foreclosure and as to the amount of fixed charges, which exceed the net earnings by \$1,000,000, and the necessity of subordinating bondholders' claims to those charges and the floating debt. The report has further depressed the prices of Erie securities in London.

A London telegram of Oct. 20 says that at a meeting of Erie bondholders in that city, on that day, a committee of consultation was appointed to prepare a plan of reorganization and report to a future meeting.

Valparaiso & Southern.

There is talk of building a narrow-gauge road from Valparaiso, Ind., southward to Rensselaer in Jasper County, a distance of about 40 miles.

Havana, Bantoul & Eastern.

The bridge work is now well advanced, and a construction train has been put upon the road. The work of tracklaying will be pushed forward as fast as the iron is received.

Ligonier Valley.

This road was sold at sheriff's sale Oct. 9, and the property was bought by Henry D. Foster, of Greensburg, Pa., for \$3,810. The road is graded from the Pennsylvania Railroad at Latrobe southeast 10 miles to Ligonier, but no track has been laid.

Western Maryland.

The Baltimore Circuit Court has adjourned the hearing of the foreclosure suit against this company to Dec. 10. A reply to the bill will be filed by Dec. 1.

Seattle & Walla Walla.

The Seattle (W. T.) Tribune of recent date says: "Responsible men in Seattle and elsewhere, have united in a proposition to the Seattle & Walla Walla Railroad Company to build and equip 20 miles of the road leading out of town, offering to bond themselves in the sum of \$250,000 for the faithful performance of their contract. The directors of the company met last evening and definitely accepted the proposition, the certain fulfillment of which we may expect soon after the signing of the bond. This twenty-mile section will take the end of the road to Cedar Mountain, will tap the coal deposit of that place, and also that at Renton, at Talbot, and at Clymer, running only about four miles from the mine of the Seattle Company."

Lafayette, Muncie & Bloomington.

The track is now laid from Muncie, Ind., westward to Tip-top, 35 miles, and a special train ran over the road last week. Regular trains will be put on as soon as arrangements can be made.

It is reported that the road will be run either by or in the interest of the Cleveland, Columbus, Cincinnati & Indianapolis, and that that company will furnish the equipment.

Chicago, Clinton & Western.

It was noted last week that the entire property of this company had been sold to C. D. Close for \$2,893.75 under a special execution in favor of B. F. Aiken. The Davenport Gazette says: "It will be remembered that the contractors who built what there is of the Chicago, Clinton & Western filed lien upon it, week before last, covering all the property described in the deed, while the grade in Johnson County and a portion in Cedar was built long before the contractors did any work on the line. It is hinted that the old Chicago, Omaha and St. Joseph Company will claim this portion of the road under the deed."

Davenport & St. Paul.

Under instruction from the foreign bondholders, Judge Grant, of Davenport, their counsel, has filed a bill in foreclosure in the United States Court at Des Moines. No opposition will be offered by the company, and a decree of sale will probably be granted at the present term.

Geneva, Ithaca & Athens.

This company has for some time been trying to secure a connection with the New York Central at Geneva. The most direct and cheapest way was through the village, but the people objected. One night last week, however, a force was quietly assembled and the connecting track all laid before morning.

Pacific, of Missouri.

At the meeting of the stockholders in New York, Oct. 12, President Peirce, of the Atlantic & Pacific, said that the dividend could not be paid. He further stated that his company

had expended \$1,400,000 in improvements of the leased road, return for which it held \$1,800,000 Missouri Pacific bonds as security for its reimbursement. The earnings of the Pacific road had decreased materially during the present year. The credit of the lessee having fallen very low in New York, they were anxious to return the bonds.

There was some discussion, the opinion being expressed that the Missouri Pacific stockholders would be willing to accede to the Atlantic & Pacific proposal, provided the lease could be cancelled without litigation. Finally a committee, consisting of J. B. Colgate, A. B. Baylis, W. T. Hatch, C. F. Timpson and Jacob Cromwell, was appointed to meet the Atlantic & Pacific directors and see what could be done.

The Winter Time Table Convention.

The meeting of superintendents and managers to arrange the winter time tables for the through lines was held in Chicago, Oct. 13. The roads represented were the Atlantic & Great Western, the Atlantic & Pacific, the Baltimore & Ohio, the Boston & Albany, the Buffalo, New York & Philadelphia, the Burlington, Cedar Rapids & Minnesota, the Cairo & Vincennes, the Canada Southern, the Chicago & Alton, the Chicago, Danville & Vincennes, the Cleveland, Columbus, Cincinnati & Indianapolis, the Cincinnati, Sandusky & Cleveland, the Chicago, Burlington & Quincy, the D. & T. & L. & Lake Michigan, the Erie, the Evansville, Terre Haute & Chicago, the Fort Wayne, Jackson & Saginaw, the Great Western of Canada, the Grand Rapids & Indiana, the Hannibal & St. Joseph, the Illinois Central, the Illinois Midland, the Indianapolis & Vincennes, the Indianapolis & St. Louis, the Indianapolis, Bloomington & Western, the Indianapolis, Peru & Chicago, the Indianapolis, Cincinnati & Lafayette, the Lake Shore & Michigan Southern, the Louisville, Cincinnati & Lexington, the Louisville & Nashville, the Louisville, Paducah & Southwestern, the Memphis & Little Rock, the Michigan Central, the New Orleans, St. Louis & Chicago, the New York Central & Hudson River, the Ohio & Mississippi, the Pennsylvania, the Pennsylvania Company, the Pittsburgh, Cincinnati & St. Louis, the Peoria, Pekin & Jacksonville, the St. Louis, Iron Mountain & Southern, the St. Louis, Alton & Terre Haute, the Toledo, Peoria & Warsaw, the Toledo, Wabash & Western and the Vandalia Line.

Mr. E. S. Flint, of the Cleveland, Columbus, Cincinnati & Indianapolis, presided, and Mr. W. F. Allen, of the Official Guide, acted as Secretary. After some discussion Messrs. Paine, Tillinghast, Thomson, Bowen, Rowland, Cooper, Caldwell, Talmage, Carey, Quincy, Strong and Powell were appointed a committee to prepare and report a through time-table. A resolution was passed that no through passenger trains should be run at a higher speed than that provided for in the general schedule. The committee reported the time-table of last winter, with a few unimportant changes. This was adopted, and Nov. 21, was fixed as the date for it to take effect. The convention adjourned to meet in Cincinnati, April 12, 1876.

Securities Admitted to the New York Stock Exchange.

The following securities have recently been placed upon the list at the New York Stock Exchange:

Boston & New York Air Line, \$500,000 first-mortgage bonds, 7 per cent., having 20 years to run from Aug. 1, 1875, but redeemable at any time by the company by giving six months' notice and paying 5 per cent. premium.

Western Union Telegraph, \$4,000,000 bonds dated May 1, 1875, having 25 years to run and bearing 7 per cent. interest. These bonds will be known as Western Union Telegraph bonds of 1900.

Pueblo & Arkansas Valley.

The Pueblo & Salt Lake and the Colorado & New Mexico railroad companies have been consolidated with the Pueblo & Arkansas Valley Company, which is building the extension westward of the Atchison, Topeka & Santa Fe. The necessary papers have been filed. The capital stock of the consolidated company is fixed at \$3,000,000.

Santa Clara Valley.

A company by this name has been organized in California to build a railroad from Dumbarton Point in Alameda County by way of Alviso, Santa Clara and San Jose to Santa Cruz. The capital stock will be \$1,000,000.

Los Angeles & Independence.

The track is now laid from the port of Santa Monica, Cal., westward seven miles towards Los Angeles. The grading to the latter place is finished, and work is in progress on the depot. The wharves at Santa Monica are making good progress.

Western, of Alabama.

The report of President Wadley, of the Central of Georgia, gives the following particulars concerning this road: "A decree for the sale of the road having been made, and the Central, jointly with the Georgia Railroad Company, being endorser on a large amount of the bonds, it was agreed to become joint purchasers of the road unless some other party bid a sum large enough to protect the endorserments. The sale was made in accordance with the decree of court April 19, and the road was bid off by Major H. C. Semple as agent for the two companies. The amount bid, with expenses and payments on account of the Western Railroad Company, amounted to \$3,286,257.02. This, divided equally between the two purchasing companies, gives to each \$1,643,128.51. While the above was the sum bid and paid by the two companies, the bonded debt of the Western Railroad stands now at \$2,553,000, on which interest has to be paid at the rate of 8 per cent. per annum. * * * Although the road was sold April 19, the sale was not confirmed until May 26, when it passed into the hands of Gen. E. P. Alexander, as agent of the two companies, and he will continue in that capacity until a provisional organization is formed, which is provided for by agreement. This agreement provides for a partition of the road, so that the Georgia Company will control the portion of the road from West Point to Opelika, and the Central that from Columbus to Opelika. For the purpose of arranging a basis upon which to make this partition, Messrs. L. P. Grant and Virgil Powers were appointed by the two companies to take this matter into consideration and report. By their report, which is believed to be fair and just to both parties, the Georgia Railroad is chargeable with \$422,000 for the road from West Point to Opelika, and the Central with \$487,000 for that from Columbus to Opelika. The partition has not been consummated, and therefore details cannot be given; but it is hoped that this can soon be done so that the two roads will meet at Opelika."

It is understood that there is still some difference as to details. After the partition the line from Opelika to Selma will still continue to be worked jointly.

Indianapolis, Bloomington & Western.

A meeting of the first-mortgage Extension bondholders was held in New York, Oct. 15, when the committee reported that they had not been able to get a very clear idea of the earnings of the line covered by their mortgage, as the company had kept no separate account of its earnings. The Receiver, however, had reported the operations of the Extension for the seven months ending June 30 as follows:

Earnings (\$392 per mile).....\$82,981 21

Expenses (95.10 per cent.).....78,916 87

Net earnings (\$31 per mile).....\$4,064 34

It is believed that a much better result would have been obtained had the road been more prosperous and rates better. With respect to the issue of the whole amount of \$5,500,000

bonds under the mortgage, when according to the trust deed a sufficient amount was to be retained to complete the road to Keokuk, the committee could get very little information, beyond the fact that the whole amount had been sold or hypothecated, and that a large part of the issue had been used for the benefit of the main line. The committee believe that the line can be extricated from its present difficulties only by the co-operation of all the interests, and recommend the appointment of a committee to confer and act with those appointed by the other classes of bondholders.

The meeting accepted the report and appointed John J. Crane, John Castree and Frank Shepard, the members of the former committee, as the committee of conference recommended in the report.

Erie Southern.

Articles of association have been prepared for this company, which is to build the proposed new line to connect Erie, Pa., with the Atlantic & Great Western. The line adopted is from Erie southward to Cambridge, 26 miles, and is the same, or nearly the same, as that surveyed for the Pennsylvania Petroleum road. The capital stock is to be \$260,000, with privilege of increase by vote of the stockholders. A provisional organization has been completed and an active canvass for subscriptions is being made.

Housatonic.

Notice is given that the \$200,000 mortgage sinking fund 7 per cent. bonds of 1862, which are redeemable in 1877, will, by virtue of a condition in the mortgage, be paid off and retired on presentation at the Treasurer's office in Bridgeport, Conn. Interest on them will cease after Nov. 1, 1875.

Ohio & Mississippi.

At the annual meeting in Cincinnati, Oct. 14, the stock and bondholders voted unanimously to ratify the purchase of the Springfield & Illinois Southeastern road and the issue of bonds made for that purpose.

A suit has been begun to recover from this company \$60,000, alleged to be due as unpaid internal revenue tax on the net earnings of the road from January, 1868, to January, 1872.

Louisville, New Albany & Chicago.

In the United States Supreme Court, Oct. 14, the case of Putnam and others against Bill, appeal from the Circuit Court for Indiana, was submitted without argument. This is the suit to set aside the foreclosure and sale of the Louisville, New Albany & Chicago road under a decree of the Circuit Court, on the grounds of alleged fraud and collusion on the part of the former corporation to defeat certain subordinate mortgages on the property.

Shenango & Allegheny.

It is said that the directors have decided to go to work at once, complete the partly graded road-bed and lay the track to New Hope, Pa., 14 miles east of the present terminus at Harrisville. The intention is to have the road done before winter sets in.

Oheraw & Ohester.

The contract for grading this road from Lancaster, S. C., east to Oheraw has been let to Captain Ellis. The distance is about 50 miles.

Chicago & Illinois River.

There is talk of a speedy commencement of work on the extension of this road from its present terminus at the Mazon River in Grundy County, Ill., to Streator.

Peach Bottom.

This company has closed a contract with Waterman & Beaver, of Danville, Pa., for 400 tons of rails at \$48 per ton, delivered in York. These rails are to be used in the extension of the Western Division eastward.

Allegheny Valley.

It has been resolved to replace the iron rails now in the track with steel as fast as they wear out. The company recently bought 1,000 tons of steel rails, which are now being laid.

Delaware Lackawanna & Western.

Considerable improvements are being made on the Bloomsburg Division. The bridge over the Susquehanna at Pittston has been rebuilt, a work rendered necessary by the damage done by the spring floods. The second track is being extended from Kingston to Nanticoke, seven miles, and a change is being made in the location of the track at Plymouth Junction so as to avoid the present curve there. This work is to be completed this month.

West Wisconsin.

The committee appointed at the meeting of the first-mortgage bondholders, held in London, Sept. 15, gives notice that a circular explaining the position of the company and the course recommended by the committee will be given or sent to bondholders, on application to Naylor & Co., No. 99 John street, New York. This committee consists of Frederick Lehman, Josiah Atwood, Wm. F. Bruff, John Perry, R. U. Potts, Barthold Schlesinger and Henry Schlesinger.

The committee's circular repeats the statement of the company's debts, given in the President's report, which is as follows:

First-mortgage land grant bonds.....	\$5,815,500
Southern extension bonds, of which \$370,000 are held as collateral.....	640,000
Consolidated bonds, of which \$1,471,000 are held as collateral.....	1,510,000
Other debts, against part of which \$1,841,000 bonds are pledged.....	1,842,526
Total.....	\$7,807,526

The net earnings for 1874 fell nearly \$80,000 short of the amount sufficient to pay interest on the first-mortgage bonds.

The committee do not pronounce any opinion on the proposition to fund the coupons, but they think it unwise for bondholders to accept it without further examination and precaution. It is necessary for nearly all to accept it to make it valid, as by the terms of the mortgage the holders of \$100,000 of bonds can demand a foreclosure. It is necessary for bondholders to act unitedly, and it is believed that satisfactory results can be obtained. They propose to receive the bonds of such holders as may desire to co-operate with them, and to issue negotiable receipts in exchange. To raise a fund for the necessary expenses bondholders are asked to subscribe 0½ per cent. of the face of their bonds, and to agree to pay a further sum, not to exceed 1½ per cent., if necessary.

An agreement to be signed by bondholders accompanies the circular, which gives the committee power to act for the holders, to make agreement with the company, or if deemed best to foreclose the mortgage, sell the road, buy it in on behalf of the bondholders and organize a new corporation.

Delaware & Hudson Canal.

The agreement to stop shipments of coal eastward for a time has had the effect of laying up nearly 720 canal boats with their crews and teams, only 15 boats per day being now loaded at Honesdale instead of 75, the usual number. The loss to the boatmen is heavy and will be much felt by them, especially as the season is near its close.

The Tennessee and Mobile Water Route.

A convention to advocate the completion of the water route from the Tennessee River to Mobile Bay by way of the Coosa and Alabama rivers was held in Rome, Ga., last week, and ad-

ourned Oct. 7 after adopting a resolution recommending to Congress and the legislatures of Tennessee, Georgia and Alabama legislation to aid in the connection of Alabama and Tennessee rivers; also indorsing the four great water routes proposed by the Windom committee. Some local projects were also discussed and approved.

Wisconsin Railroad Farm-Mortgage Company.

It will be remembered that this company was organized to represent the persons who mortgaged their farms in aid of the LaCrosse & Milwaukee road, and who had claims against it in consequence. Its main business is to see that the proceeds of the old LaCrosse & Milwaukee land grant are distributed among the claimants. It has recently paid a dividend of 6 per cent. on these claims, and is now prosecuting suits to restrain the North Wisconsin and the West Wisconsin companies from making any disposition of such lands granted them in their land grants as originally formed part of the grant to the Milwaukee & LaCrosse road. The time fixed by the Legislature for filing the claims finally expired Oct. 9. The total amount filed is about \$1,060,000.

New York Cheap Transportation Association.

At the regular monthly meeting, held Oct. 11, the Committee on Railroad Transportation submitted a report declaring the inability of existing lines to carry at low rates, owing to the mixed nature of their traffic and their heavy loads of stock and debt, and urging the importance of building a new and direct line from New York to Chicago and St. Louis, to be used exclusively for freight.

Atlantic & Lake Erie.

A new construction company with a capital of \$750,000 has been organized to build this road, under the name of the Pomeroy & Toledo Construction Company. Hon. Charles Foster is President. An active canvass is being made for local subscriptions.

Petersburg & Toledo.

It is proposed to build a narrow-gauge railroad for local travel from Petersburg, Mich., southeast to Toledo, about 20 miles. The matter is being talked up and a company is to be organized at once.

Philadelphia, Wilmington & Baltimore.

The 14½ miles of second track recently brought into use gives the road a complete double track throughout, two-thirds of which is laid with steel rails. This last section of 14½ miles is laid with steel, 59 pounds to the yard, rolled by the Pennsylvania Steel Company. The cross-ties were spotted with Knowlton & Fuller's tie-spacer and spiked with "Cuero" spikes. The section was built under the direction of Mr. S. T. Fuller, Engineer in charge of Maintenance of Way.

Texas & New Orleans.

The Houston (Tex.) Telegraph of recent date says that Vice-President Crosby has received authority to advertise at once for proposals for rebuilding the road to Sabine River. The report in detail of the survey recently made has been sent forward to the New York office, and the estimate for cost of reconstruction is considerably less than was supposed. The work will be pushed to completion in as short a space of time as possible.

Train Accidents in September.

Early on the morning of the 1st a freight train on the Southern Minnesota road was thrown from the track near Isinour's, Minn., where the road-bed had been badly washed during a violent storm. Several cars were broken up.

On the 1st, a switching engine on the Jeffersonville, Madison & Indianapolis road ran off the track in the Indianapolis yard and was much damaged.

On the 1st, some cars of a freight train on the New York Central & Hudson River were thrown from the track at Palmyra, N. Y., by a broken axle.

On the 1st, a freight train on the New York Central & Hudson River ran off the track at Lockport Junction, N. Y.

On the 1st, a freight train on the New York Central & Hudson River ran off the track at Batavia, N. Y., and two cars upset in the ditch.

On the evening of the 1st, as a train heavily loaded with passengers returning from a camp meeting was near Shawangunk, N. Y., on the Walkill Valley road, a wooden culvert gave way under it. The engine passed over, but five cars left the track and went down a bank 10 feet high, two of them rolling over. The cars were badly broken and 26 persons were injured seriously, besides a number slightly bruised.

On the night of the 1st a north-bound passenger train on the Baltimore & Potomac road ran over a cow at Bowie, Md., throwing the engine and several cars from the track and blocking the road till morning.

On the night of the 1st, on the Chicago, Milwaukee & St. Paul near Chicago, Ill., an engine ran off the track, delaying trains some time.

On the morning of the 2d a passenger train on the Shore Line Division of the New York, New Haven & Hartford road ran over a cow near Saybrook, Conn., and one car was thrown from the track and fell over on its side, injuring three passengers.

Near noon of the 2d, as a passenger train on the Atchafalpa & Nebraska road was approaching Doniphan Junction, Kan., a wheel broke under the tender and the whole train was thrown from the track, the baggage car falling over on its side, crushing three men under it, two of whom were killed and the third badly hurt.

On the evening of the 2d a train on the Utica & Black River road struck a rock which had fallen on the track near Black River, N. Y., breaking the front of the engine somewhat and throwing the track from the track.

On the night of the 2d a freight train on the New Jersey Division of the Lehigh Valley road was thrown from the track at Bound Brook, N. J., wrecking the engine and tender and scalding the engineman and fireman badly. The accident was caused by a misplaced switch.

On the night of the 2d a freight train on the Sioux City & St. Paul road was thrown from the track near Sioux City, Ia., at a place where the road-bed had been washed out during a heavy storm. Five cars were wrecked.

On the night of the 2d a stock train on the Chicago & Northwestern road went through a bridge at New Jefferson, Ia., the abutments of which had been washed out by a heavy freshet. Twelve cars were wrecked and a number of cattle killed.

On the morning of the 3d a parallel brok on the engine of a train on the New Bedford Railroad as it was approaching Mansfield, Mass., breaking up the cab and doing some damage to the engine.

On the morning of the 3d a north-bound freight train on the Iowa & Minnesota Division of the Chicago, Milwaukee & St. Paul ran into a land-slide near Taopa, Minn., and the engine and five cars were thrown from the track and badly broken. The road was blocked 10 hours.

On the 3d, on the Detroit & Milwaukee road, near Clarkston, Mich., there was a butting collision between an east-bound freight and a west-bound wood train, by which both engines were wrecked and several cars badly broken. The fireman of the freight was badly hurt.

On the morning of the 4th the engine of a passenger train on the Washington Branch of the Baltimore & Ohio broke a connecting rod near Bladensburg, badly damaging the engine and tearing a hole in the boiler.

On the morning of the 4th the milk train on the Middlesex

Central road was thrown from the track by a loose switch at Arlington, Mass., and the engine with the milk and baggage cars went down a bank, the engine running into a coal shed and wrecking itself badly. The tender upset, the milk car was thrown over into an orchard 40 feet from the track, while the express car was lifted from its trucks and thrown across the track and the baggage car was also thrown from the rails. One man was hurt.

On the morning of the 4th, in Burlington, Ia., a Chicago, Burlington & Quincy switching engine ran off the track.

On the 4th a west-bound express train on the Chicago, Rock Island & Pacific Railroad was thrown from the track near Commerce, Ia., where the road-bed had been washed out by a freshet, the track being covered with water at the time. The whole train went into the ditch, a brakeman was killed and the baggage master and four others hurt.

On the afternoon of the 4th a mixed train on the Suncook Valley road ran off the track at Chichester, N. H., wrecking several cars and injuring four persons.

On the night of the 4th a freight train on the Springfield Division of the Ohio & Mississippi road got stalled on a bridge near Louisville, Ill., and neglecting to put out signals a following freight came up and ran into it, wrecking several cars and knocking down the bridge, which carried several cars and the engine down with it. The engineman and fireman were hurt.

On the night of the 4th eight cars of a freight train on the Louisville & Nashville road were thrown from the track near Glasgow Junction, Ky., by a misplaced switch. The road was blocked four hours.

Very early on the morning of the 5th a freight train on the New Bedford Railroad ran into eight cars loaded with slate which were standing on the track at Crane's Station in Norton, Mass. The engine was completely wrecked, 28 cars went into the ditch and were badly broken, and the engineman, fireman and conductor were hurt. It appears that the slate cars were left on a siding at Mansfield the night before and in some way got started and ran down the grade to Crane's, where they stopped.

On the 5th the engine of a local train on the Philadelphia & Reading road ran off the track in Philadelphia and was considerably damaged. Both engineman and fireman were hurt.

On the afternoon of the 5th a train on the Savannah, Skidaway & Seaboard road ran off the track at Montgomery, Ga., blocking the road six hours. The accident was caused by the spreading of the rails.

On the afternoon of the 5th, as a train on the Boston, Revere Beach & Lynn road was making a flying switch into the depot at Lynn, Mass., the train was not checked up in time and ran into the bumper at the end of the station, throwing a car from the track and shaking up the whole train badly.

On the night of the 5th a freight train on the Texas & Pacific road ran over a cow near Gladewater, Tex., throwing the engine and several cars from the track and killing a brakeman.

On the morning of the 6th, in Columbus, O., as a switching engine was running upon a high coal siding, a stringer broke, throwing the engine from the track and injuring a man badly.

On the 6th, a train on the Memphis & Little Rock road was thrown from the track by a rail which had been removed for the purpose of wrecking the train. The engineman was somewhat hurt. Near by a note was found tied to a rail saying: "This will happen frequently unless your men are paid." It is supposed to be the work of a discharged employe.

On the night of the 6th, a freight train on the Morris & Essex Division of the Delaware, Lackawanna & Western road ran off the track at Waterloo, N. J., and was delayed four hours.

On the morning of the 7th, at the crossing of the Lake Shore & Michigan Southern and the Cincinnati, Sandusky & Cleveland roads in Sandusky, O., a Lake Shore train ran into some cars that had been left standing upon the other track. The engine was overturned, the engineman fatally and the fireman badly hurt.

On the morning of the 7th, an engine on the Indianapolis, Cincinnati & Lafayette road ran off the track in the Indianapolis yard.

A switching engine sent to assist it came up at such a speed that it could not be stopped in time and ran into the tender, wrecking it completely.

Late on the night of the 7th, a west-bound passenger train on the Erie Railway ran into a New Jersey & New York freight which was crossing from its own to the Erie track at Hackensack Junction, N. J. The Erie engine was somewhat damaged and the freight conductor was thrown from a car and badly hurt. It is said that the passenger train had right of way and the freight should not have attempted to cross to the Erie track until the passenger had passed.

Very early on the morning of the 8th, an express train on the Philadelphia, Wilmington & Baltimore road ran off the track near Perryville, Md., and was delayed some time.

Early on the morning of the 8th as some cars were being run down the New Orleans, St. Louis & Chicago incline at Fillmore, Ky., opposite Cairo, one of them broke loose and ran down upon the transfer boat, striking the bumper at the end of the boat with such force that the car body was lifted from the trucks and went into the river.

On the morning of the 8th a passenger train on the Cleveland, Columbus, Cincinnati & Indianapolis road ran into the rear of a freight train which was going into a siding in Cincinnati, O. The engine was damaged and a freight car wrecked.

On the morning of the 8th, the second section of a peach train on the Philadelphia, Wilmington & Baltimore road ran into the first section which had stopped at Chester, Pa., wrecking four cars and damaging the engine. The flagman had been sent back to stop the second train, but did not go far enough. The road was blocked six hours.

On the 8th three cars of an excursion train on the North Wisconsin road were thrown from the track by a misplaced switch near Big Marsh Lake, Wis. The lock had been broken and the switch purposely misplaced.

On the 8th the engine of a train on the Trans-continental Division of the Texas & Pacific road ran off the track near Sherman, Tex., and was badly damaged.

On the night of the 8th a freight train on the Western Union Railroad broke through a bridge near Allen's Grove, Wis., the abutments of which had been badly washed during a heavy storm. The engine and 14 cars pitched into the river.

On the morning of the 8th, a bridge gave way under an express train on the Western Union Railroad, near Beloit, Wis., throwing the baggage car and one coach into the river. The abutments of the bridge had been washed out by a sudden freshet.

On the night of the 8th, an express train on the Wisconsin Division of the Chicago & Northwestern was thrown from the track and down a bank at Lawrence, Ill., where a bridge had been carried away by a sudden freshet. The engine and three cars were wrecked, the engineman, baggageman, train-boy and a passenger killed and four passengers hurt.

On the night of the 8th, on the Wisconsin Division of the Chicago & Northwestern, near Harvard, Ill., a freight train ran into a washed-out culvert, wrecking the engine and killing the fireman.

On the night of the 8th, on the Wisconsin Division of the Chicago & Northwestern road, a freight train ran into a gap where a culvert had been washed out, near Shopiere, Wis., during a heavy storm. The engine was wrecked, the engineman and fireman killed. This was the third accident on the same night, within a few miles, caused by the same storm.

On the morning of the 9th, the rear car of a freight train on the Texas & Pacific road caught fire when the train was near

Greenwood, Tex., it was uncoupled and was entirely destroyed by the explosion of some kegs of powder which were in it.

On the morning of the 9th, three cars of a freight train on the Keokuk Branch of the Chicago, Burlington & Quincy road were thrown from the track in the yard at Keokuk, Ia.

On the morning of the 9th, several cars of a freight train on the Philadelphia, Wilmington & Baltimore road were thrown from the track at Thurlow, Pa., by a broken truck. The road was blocked four hours.

On the afternoon of the 9th, as a train on the Chicago, Duquesne & Minnesota road was running at a high speed round a sharp curve near Lansing, Ia., it was thrown from the track by the spreading of the rails. Nearly all the cars went off, and the rear coach went down the high bank into the Mississippi River, turning over two or three times as it went. The car was badly broken and 21 persons were hurt.

On the afternoon of the 9th, a train on the Texas & Pacific road was thrown from the track in Shreveport, La., by a misplaced switch.

On the evening of the 9th there was a butting collision between two freight trains on the Ohio & Mississippi road, near Dillabore, Ind., by which several cars were wrecked and three boys who were stealing a ride were killed.

About 4 o'clock on the morning of the 10th, near Clayton, Ill., on the Toledo, Wabash & Western Railway, the fast passenger train ran into a wash-out at a speed calculated at 40 miles per hour. The engine jumped (about 16 feet) all right, but the tender, baggage car, two coaches and the sleeper all went in, one of the coaches turning over. The road was blocked 12 hours.

On the night of the 10th, on the Houston & Texas Central road, near Palmer, Tex., a freight train went through a bridge, wrecking 13 cars and stopping all travel over the road.

On the night of the 10th a freight train on the Boston & Maine road ran off the track at West Scarborough, Me.

On the night of the 10th, at Gibson City, Ill., on the Bloomington Branch of the Toledo, Wabash & Western road, several cars were blown from a siding upon the main track during a sudden and violent storm. A short time afterwards a stock train ran into these cars, wrecking the engine and several cars and blocking the road for several hours.

Very early on the morning of the 11th the boiler of the engine of a freight train on the Chicago, Burlington & Quincy road exploded near Galesburg, Ill. The front end of the barrel was torn open for about three feet on the under side and the running gear somewhat damaged. The fireman, who had just opened the fire-box door, was fatally burned and the engineman was also slightly hurt. The boiler was found to be sound on subsequent examination and there was no furrowing of the sheets visible.

At 5 o'clock on the morning of the 11th a freight train on the Missouri, Kansas & Texas road went through a new iron bridge of 105 feet span over Sulphur Creek, about a mile north of Booneville, Mo. The engine and tender passed over and two flats loaded with ties and the caboose went through. The engineman was struck by a flying piece of iron from the bridge and fatally injured, and the conductor and brakemen were hurt. The ties on one of the flats had slipped to one side and struck the train; the train was running at high speed.

On the night of the 12th an express train on the Atlanta & Richmond Air Line road ran over a cow near King's Mountain, S. C., throwing several cars from the track and injuring the baggage man badly.

Very early on the morning of the 13th an east-bound stock train on the Grand Trunk Railway ran into a west-bound freight, which was just going into a siding at New Hamburg, Ont. The engine of the stock train, with a number of cars of both trains, was completely wrecked, and the wreck caught fire and burned up, a number of cattle being killed. The engineman was killed, and the fireman and a brakeman badly hurt. The trains had received orders to pass at New Hamburg, but the engineman of the stock did not stop, supposing that the other train would be already on the siding.

On the 13th an express train on the Terre Haute & Indianapolis road ran into the caboose of a freight train which had been run upon a siding at Coatsville, Ind., leaving the caboose projecting over upon the main track. The car was wrecked.

On the afternoon of the 13th, as a train of the Port Jervis & Monticello road was making a flying switch in the Erie yard, at Port Jervis, N. Y., the train ran into the rear of an engine, damaging the tender badly.

On the afternoon of the 13th four cars of a freight train on the Boston & Albany road ran off the track at Natick, Mass., blocking the road some time.

On the morning of the 14th a freight train on the Richmond & Danville road was thrown from the track at Scottsburg, Va., by the spreading of the rails, and the engineman was badly hurt.

On the 14th a westward-bound freight train on the St. Louis, Kansas City & Northern road went off the track at the east end of the switch at Pendleton, Mo. The engine and 10 or 12 box cars were badly smashed.

On the morning of the 15th, as a train on the Providence & Worcester road was near Albion, R. I., an axle under a refrigerator car broke at the journal, throwing the car from the track and delaying the train some time.

On the 16th, near Edwardsville, Ill., on the St. Louis Branch of the Toledo, Wabash & Western, a bridge broke under a freight train and 16 empty cars went down into the chasm.

On the evening of the 16th, as a mixed train on the Macon & Brunswick road was near Shellstone Creek, Ga., an axle broke under a box car, and three box cars, the baggage and one passenger car were thrown from the track, blocking the road all night. The baggage man and a passenger were hurt.

On the morning of the 17th the tender and baggage car of an express train on the Washington City, Virginia Midland & Great Southern road were thrown from the track near Clifton, Va., by a broken axle. The road was blocked five hours.

On the morning of the 17th, as a passenger train on the Savannah & Charleston road was passing over a trestle near White Hall, S. C., an express car ran off the track, upset and fell 12 feet into the mud, dragging the baggage car after it. The second-class coach was driven into the mail car, crushing in one end. The express messenger and another man were hurt.

On the morning of the 17th a passenger train on the New Haven & Northampton road ran over a misplaced switch and into the head of a mail train which was standing on a siding at Avon, Conn. Both engines and several cars were badly broken and three men hurt.

On the afternoon of the 17th, as a train on the Port Jervis & Monticello road was near Oakland, N. Y., the engine blew out one of the cylinder heads, delaying the train some time.

On the night of the 17th the engine of a train on the Cherokee Railroad ran off the track near Rockmart, Ga., killing the fireman and injuring four others.

Late on the night of the 17th as a freight train of the Lehigh Valley road was near Penn Haven Junction, Pa., the boiler of the locomotive exploded, completely wrecking the engine, killing the engineman, fireman and brakeman and injuring another. The whole forward part of the engine was blown to pieces and two of the men were thrown 200 yards, across the Lehigh River. The engine was rebuilt last spring, and had recently been in the Wilkesbarre shop.

On the morning of the 18th a freight train on the Chicago, Rock Island & Pacific road was thrown from the track near Davenport, Ia., by a misplaced switch. The engine upset, five cars went into the ditch in a heap and nine more were thrown zig-zag across the tracks, breaking them badly and destroying much of the lumber with which the cars were loaded.

On the 18th the pay train on the New Jersey Division of the Lehigh Valley road ran into the rear of a construction train near Pattonburg, N. J., wrecking the engine and two or three cars and injuring five laborers. The money in the pay car was scattered broadcast, but was recovered without loss.

On the 18th a freight train on the New Orleans, St. Louis & Chicago road ran off the track at Duck Hill, Miss., wrecking several cars, tearing up the track badly, and blocking the road for a day.

On the 18th a driving axle broke under the engine of a train on the Spartanburg & Union road, near Peach Tree, S. C., throwing the engine from the track and blocking the road several hours.

On the afternoon of the 19th the engine of a passenger train on the Louisville & Nashville road was thrown from the track in Memphis, Tenn., by a misplaced switch.

On the night of the 19th a freight train on the Wilmington, Columbia & Augusta road ran over a lot of cattle, near Florence, S. C., and eight or nine cars were thrown from the track, piled up and badly broken, a brakeman being seriously hurt. The road was blocked 12 hours.

On the evening of the 21st a freight train on the Iowa Division of the Illinois Central road ran off the track near Peosta, Ia., blocking the road some time.

On the night of the 21st a train on the Lehigh Valley road was thrown from the track at Allentown, Pa., by a misplaced switch and the engine was badly damaged.

On the 22d, near Bardolph, Ill., on the Chicago, Burlington & Quincy, a stock train ran off the track where some section-men had taken a rail out for repairs, ditching nearly all the train, killing or crippling a number of cattle, and blocking the road 12 hours.

On the evening of the 22d a way freight train on the Philadelphia & Reading road ran into the rear of a coal train which had just pulled out of a siding at Falls Station, Pa., wrecking its own engine and 20 cars and blocking the road five hours.

On the afternoon of the 23d some persons unknown started a train of empty cars which was standing on a siding at Turkey Run, Pa., on the Philadelphia & Reading road. The cars ran down the grade and into a loaded train, where several of them were thrown from the track and piled up in a heap. It is believed that the intention was to run the train out upon the main line, on which a passenger train was approaching.

On the night of the 23d, near New London, Ia., a freight train on the Burlington & Missouri River broke in two. The engineman whistled for brakes, and a brakeman on the forward section running back to the brake fell from the rear car of that section to the track and was run over and killed.

Very early on the morning of the 24th a freight train on the Erie Railway ran into the rear of a preceding train at Oxford, N. Y., wrecking the caboose, which was burned with two box cars and an oil car.

Very early on the morning of the 24th the second section of a freight train on the Delaware, Lackawanna & Western road ran into the rear of the first near Oxford Furnace, N. J., wrecking several cars, which took fire and were burned up.

On the 24th a freight train on the Vermont Central broke in two near Colchester, Vt., and the rear part ran into the forward one, damaging several cars.

On the afternoon of the 24th an engine on the Tyrone Division of the Pennsylvania Railroad ran into two others which were standing on the track near Enterprise, Pa., damaging all three.

Late on the night of the 24th the engine of a south-bound express train on the Washington City, Virginia Midland & Great Southern road exploded its boiler near Rapidan, Va. The forward part of the engine was blown to pieces, a plate from the boiler being thrown nearly a quarter of a mile, the track was torn up and the baggage and smoking cars were much damaged. The engineman was killed and the fireman hurt. The engine was working very hard at the time, going up a grade, and the pumps were shut off.

Early on the morning of the 25th, as a north-bound train on the Kansas City, St. Joseph & Council Bluffs road was approaching Winthrop, Mo., where a south-bound train was on a siding waiting for the other to pass, a brakeman suddenly turned the switch, and the south-bound train ran upon the siding and into the head of the other, damaging the engines and several cars and killing the conductor. It is said that the brakeman had just been waked up and hardly knew what he was doing.

Early on the morning of the 25th, as a coal train on the Pennsylvania & New York road was going on a siding at Standing Stone, Pa., to allow a passenger train to pass, the rear part of the train broke loose, and before the engineman could be notified the passenger train came up and ran into the detached section. Several cars were wrecked and the passenger engine was thrown down a bank and upset. The engineman was caught beneath it and badly hurt.

On the 25th, a train on the Worcester & Somerset road struck a wagon at a road crossing near Newton Junction, Md. The wagon was destroyed and the engine thrown from the track.

On the night of the 25th, on the Tyrone Clearfield Branch of the Pennsylvania Railroad, near Mount Pleasant, Pa., 21 cars of a coal train were thrown from the track by a broken axle and went down the bank, killing the conductor.

Early on the morning of the 26th, an east-bound extra passenger train on the Pittsburgh, Washington & Baltimore road ran into the head of a freight which was standing on the track at Ellrod, Pa. Both engines were badly broken, the engineman of the passenger badly hurt and the fireman killed. The accident was caused by the neglect of a flagman, who disappeared.

On the evening of the 26th, an express train on the New York Division of the Pennsylvania Railroad struck a dummy train on the Frankford (street) Railroad at the crossing of the two roads in Philadelphia. The dummy was almost completely destroyed, five of its passengers killed, two mortally wounded and 16 others severely hurt. There appear to have been no signals at the crossing and no special care taken to prevent accidents.

Very early on the morning of the 27th a freight train on the New York Central & Hudson River broke in two at the top of a grade at Fairport, N. Y., and the rear cars ran back down the grade and into the head of a following train, wrecking a locomotive and several cars and injuring a brakeman. The wreck caught fire and several cars were burned.

On the afternoon of the 27th 12 cars of a freight train on the Boston, Concord & Montreal road ran off the track in Rumney, N. H., blocking the road several hours.

On the night of the 27th four cars of a train on the Chicago, Burlington & Quincy road were thrown from the track by a broken rail near Woodburn, Ia., went down a bank 12 feet high and were badly wrecked. One man was killed and 30 wounded.

On the morning of the 28th a local passenger train on the Boston & Maine road struck a cow at Groveland, Mass., throwing the engine, tender and two cars from the track, injuring the engineman and a track hand. The engineman was buried in the bank so that it required some minutes digging to get him out.

On the evening of the 28th, as a construction train on the Richelieu, Drummond & Artha Vasca road was running backwards near Sorel, P. Q., it struck a rail laid across the track, and three flat cars, on which were a number of laborers, left the track and were piled up in the ditch. Of the men on board, 11 were killed and 25 hurt.

On the evening of the 28th, a freight train ran into the rear of a passenger train on the Cincinnati, Hamilton & Dayton road, at Hamilton, O., wrecking the sleeping car and killing or

fatally injuring three young men who were stealing a ride on its platform.

On the night of the 28th, two cars of a train on the Central Railroad of New Jersey ran off the track near the depot at Elizabeth, N. J., blocking the road two hours.

On the night of the 28th, as a freight train on the Louisville & Nashville road was going into a siding at Munfordsville, Ky., to allow a passenger train to pass, the passenger came up and ran into the rear of the freight, wrecking its own engine and several freight cars, and injuring the fireman. There is a sharp grade at that point, and it is said that the brakes on the passenger train failed to hold.

On the 27th a flat car loaded with brick on the Utah Central road ran off the track in Salt Lake City, Utah, and was badly broken.

On the evening of the 29th a freight train on the Columbia Branch of the Pennsylvania road ran over a cow near Mountville, Pa., wrecking the engine and several cars, and blocking the road four hours.

On the evening of the 29th there was a collision between two freight trains at the crossing of the Albany & Susquehanna and the Athens Branch of the New York Central & Hudson River near Guiderland, N. Y., by which some 20 cars were wrecked, the engineman of the Susquehanna train killed and the fireman injured.

On the night of the 29th, near Mexico, Mo., on the St. Louis, Kansas City & Northern road, a stock train going east jumped the track on a down grade of 52.8 feet to the mile. Ten cars were wrecked, 10 cattle and 20 hogs killed. The accident was caused by a broken rail.

Early on the morning of the 30th a passenger train on the Vermont Central road ran into the rear of a freight train on a bridge in Brattleboro, Vt., damaging its own engine, wrecking the caboose and another car of the freight. The usual signals had been displayed, but a fog prevented them from being seen.

On the morning of the 30th a coal car of a west-bound train on the Erie Railway was thrown from the track near Howell's, N. Y., and ran over upon the east-bound track.

Shortly afterwards an east-bound passenger train ran into the wrecked car and the engine was slightly damaged.

On the 30th a north-bound train on the Keokuk Branch of the Chicago, Burlington & Quincy ran into a Burlington & Southwestern train at the junction of the two roads at Fort Madison, Ia., breaking two cars.

On the 30th, on the Port Royal Road, near Augusta, Ga., there was a collision between a freight and a wood train by which three cars and an engine were badly damaged.

On the night of the 30th a train on the Jeffersonville, Madison & Indianapolis road was thrown from the track in Jeffersonville, Ind., by a misplaced switch.

This is a total of 116 accidents, whereby 50 persons were killed and 182 injured. Twenty-three accidents caused the death of one or more persons, 24 caused injury but not death, while 69, or 59.5 per cent. of the whole, caused no injury serious enough to be recorded.

These accidents may be classified as to their nature and causes as follows:

COLLISIONS:	
Rear collisions.....	20
Butting collisions.....	8
Crossing collisions.....	4
Unexplained.....	1
	—33

DERAILMENTS:	
Unexplained.....	23
Misplaced switch.....	8
Broken bridge.....	8
Wash-out.....	7
Cattle on track.....	7
Broken axle.....	6
Spreading of rails.....	3
Rail removed.....	2
Broken rail.....	2
Accidental obstruction.....	2
Malicious obstruction.....	1
Broken truck.....	1
Broken wheel.....	1
Broken coupling.....	1
Loose switch.....	1
Landslide.....	1
Flying switch.....	1
	—75

Boiler explosion.....	1
Broken connecting rod.....	1
Broken coupling.....	1
Cylinder head blown out.....	1
Car burn-d while running.....	1
	—5
Total.....	116

Three collisions were caused by the breaking in two of trains, five by defective signals or neglect to use them, two by misplaced switches, one each by carelessness in switching, by a flying switch, by failure of brakes and by cars blown from a siding upon the main line. One switch was purposely misplaced. Thirty-two accidents were caused directly by defects or failures of road and equipment.

Wash-outs caused a number of accidents and all but two of those from broken bridges were the result of washing out or weakening of abutments by freshets. Doubtless several of the unexplained derailments could be traced to the same cause. The number of rear collisions is noticeably large, and there are also more crossing collisions than usual. Eight derailments and two collisions from misplaced switches indicate more carelessness in that respect than is at all desirable. The number of accidents is very large, exceeding that in August and only falling behind the three severest months of last winter. The number of killed and injured is very great, and five accidents causing an unusual number of casualties are included. As compared with September, 1874, there is an increase of 27 accidents, of 23 killed, and of 77 injured. The number killed is greater than for any month during the year, and the number injured has been exceeded but once.

For the year ending with September the record is as follows:

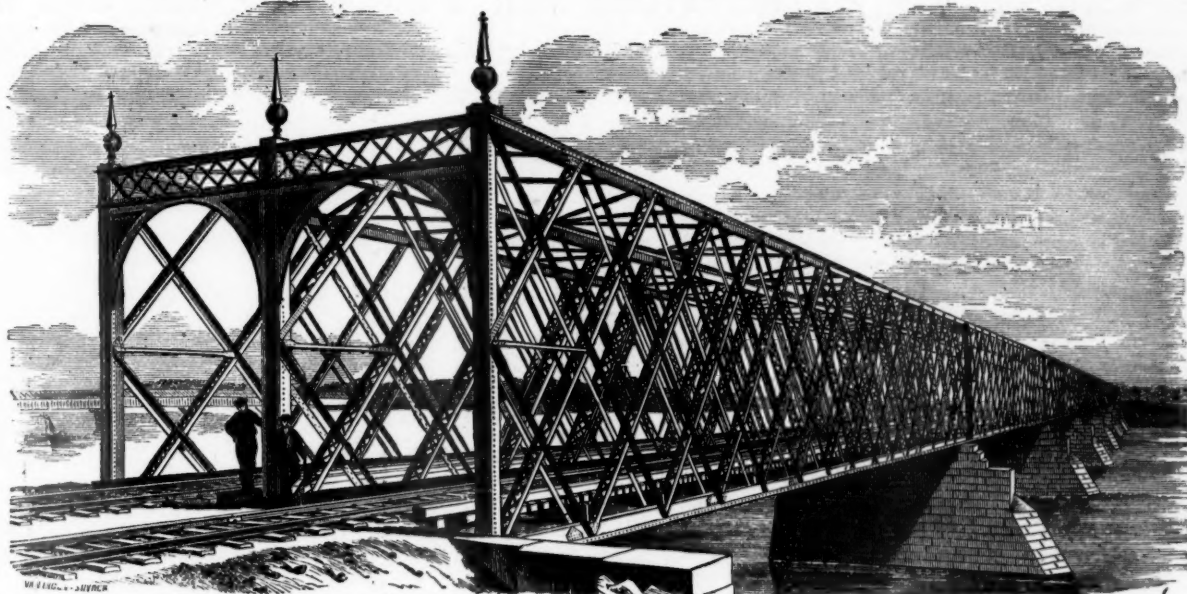
	No. of accidents.	Killed.	Injured.
October.....	81	16	80
November.....	82	13	49
December.....	74	12	49
January.....	131	19	96
February.....	211	11	186
March.....	123	17	73
April.....	60	9	67
May.....	54	6	67
June.....	61	23	80
July.....	73	37	110
August.....	114	50	182
September.....	116		
Totals.....	1,179	227	1,062

The averages per day were for the month 3.87 accidents, 1.67 killed and 6.07 injured; for the year they were 3.23 accidents, 0.62 killed and 2.88 injured. The average number of killed for the month was thus more than two and one-half times, and of injured more than twice that for the year.

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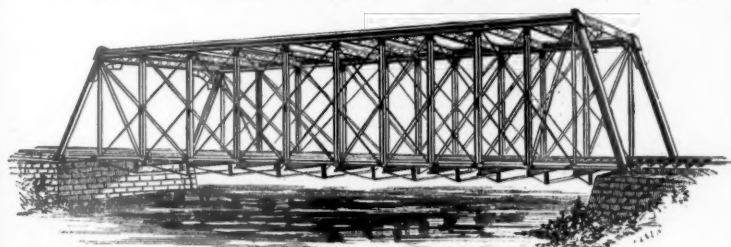
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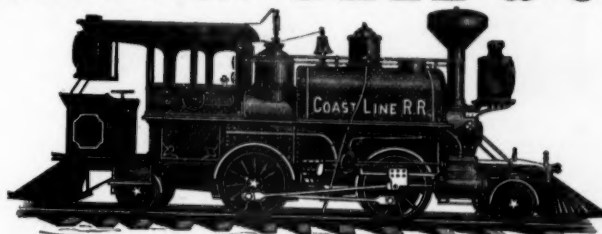
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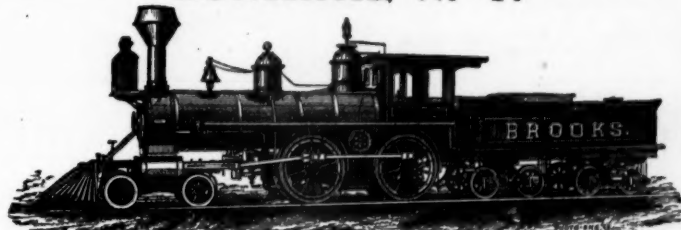
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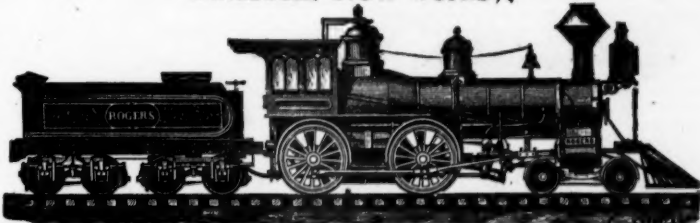
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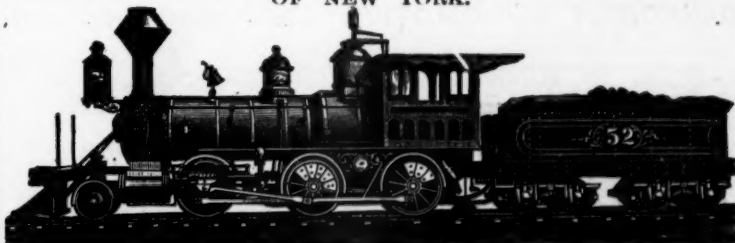
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tended Nov. 2, 1872); A. W. Smith, Feb. 11, 1862; D. B. Pratt, Oct. 16, 1860; W. S. Hudson, April 5, 1864,
and May 10, 1864.

DRAWINGS FURNISHED AND LICENSES GRANTED ON APPLICATION.

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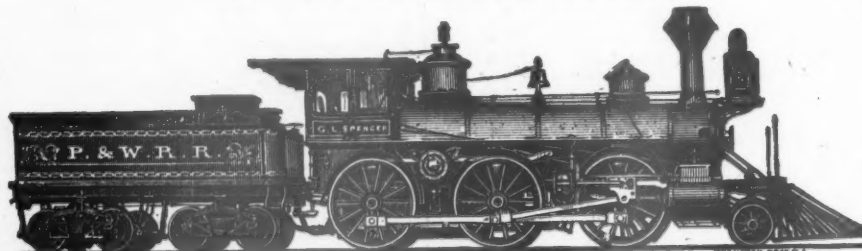
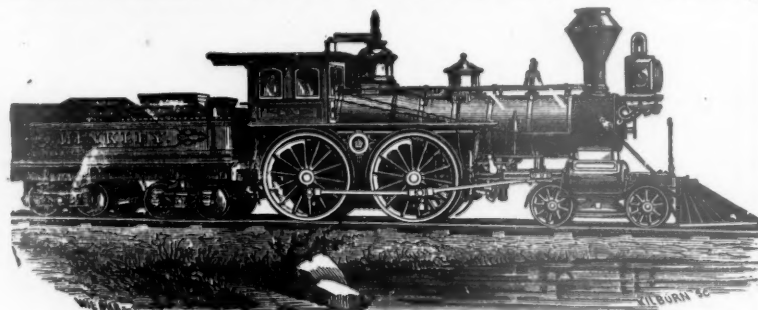
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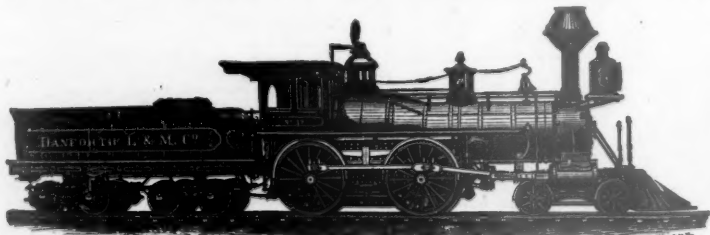
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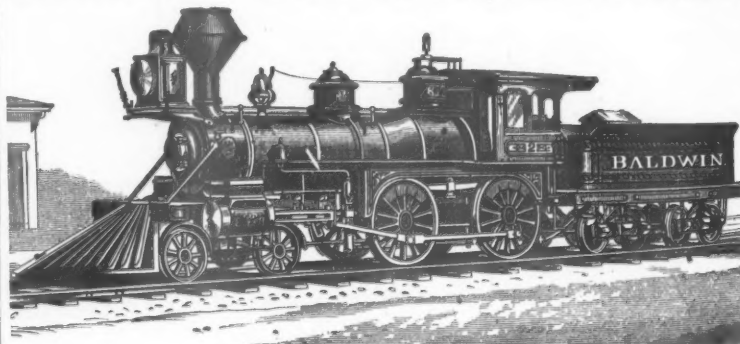
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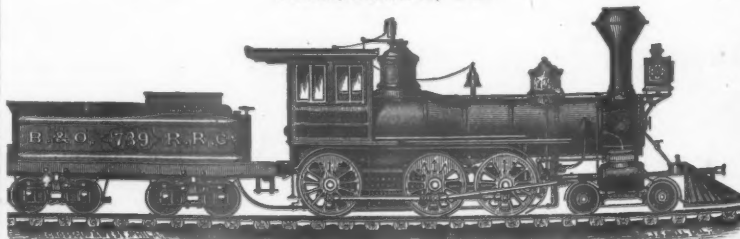
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